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APPENDIX A

Maps

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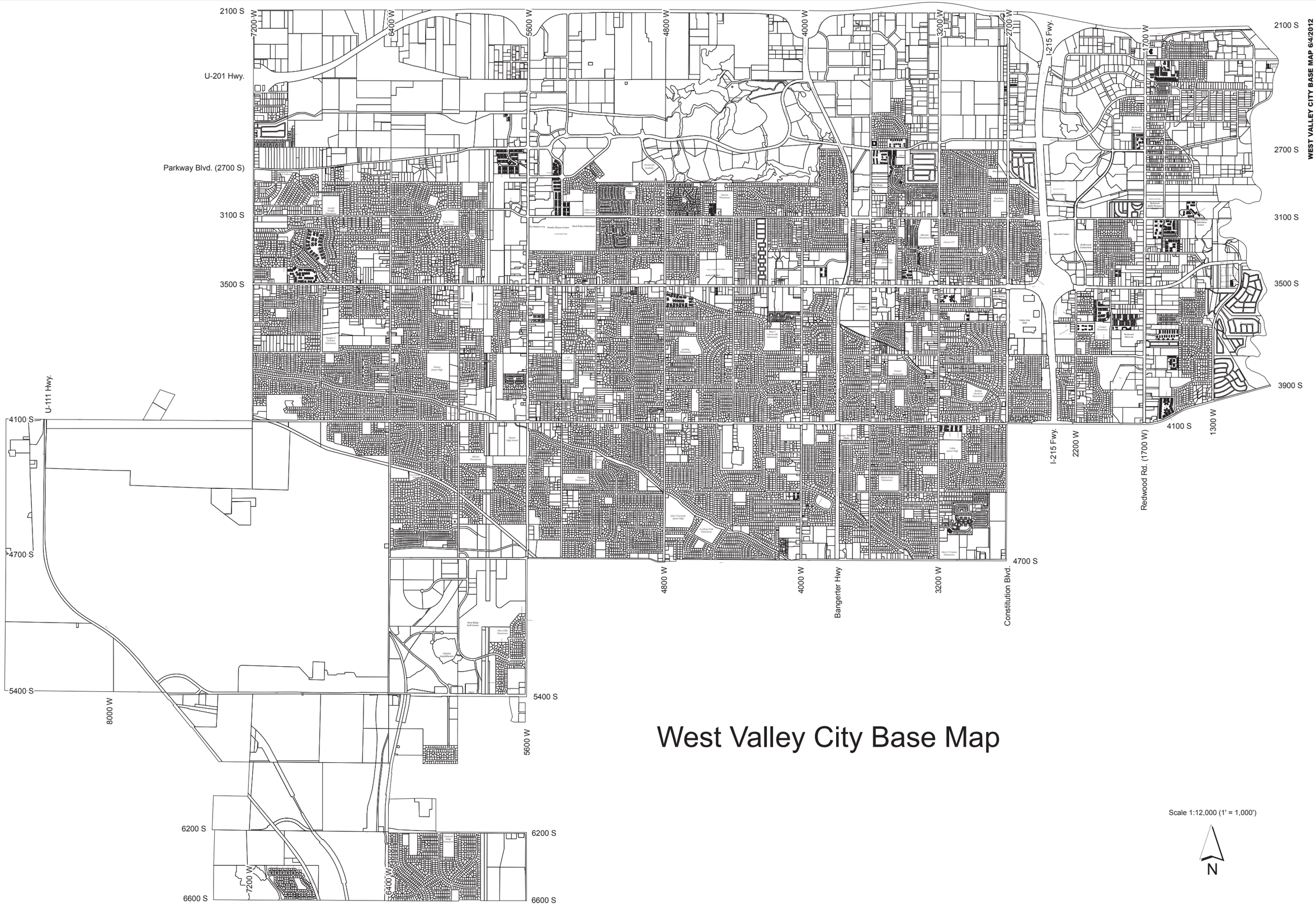
WEST VALLEY CITY IDDE HIGH PRIORITY AREA MAP A6
WEST VALLEY CITY STORM WATER DISTRICTS MAP A7



West Valley City Base Map

Scale 1:12,000 (1' = 1,000')

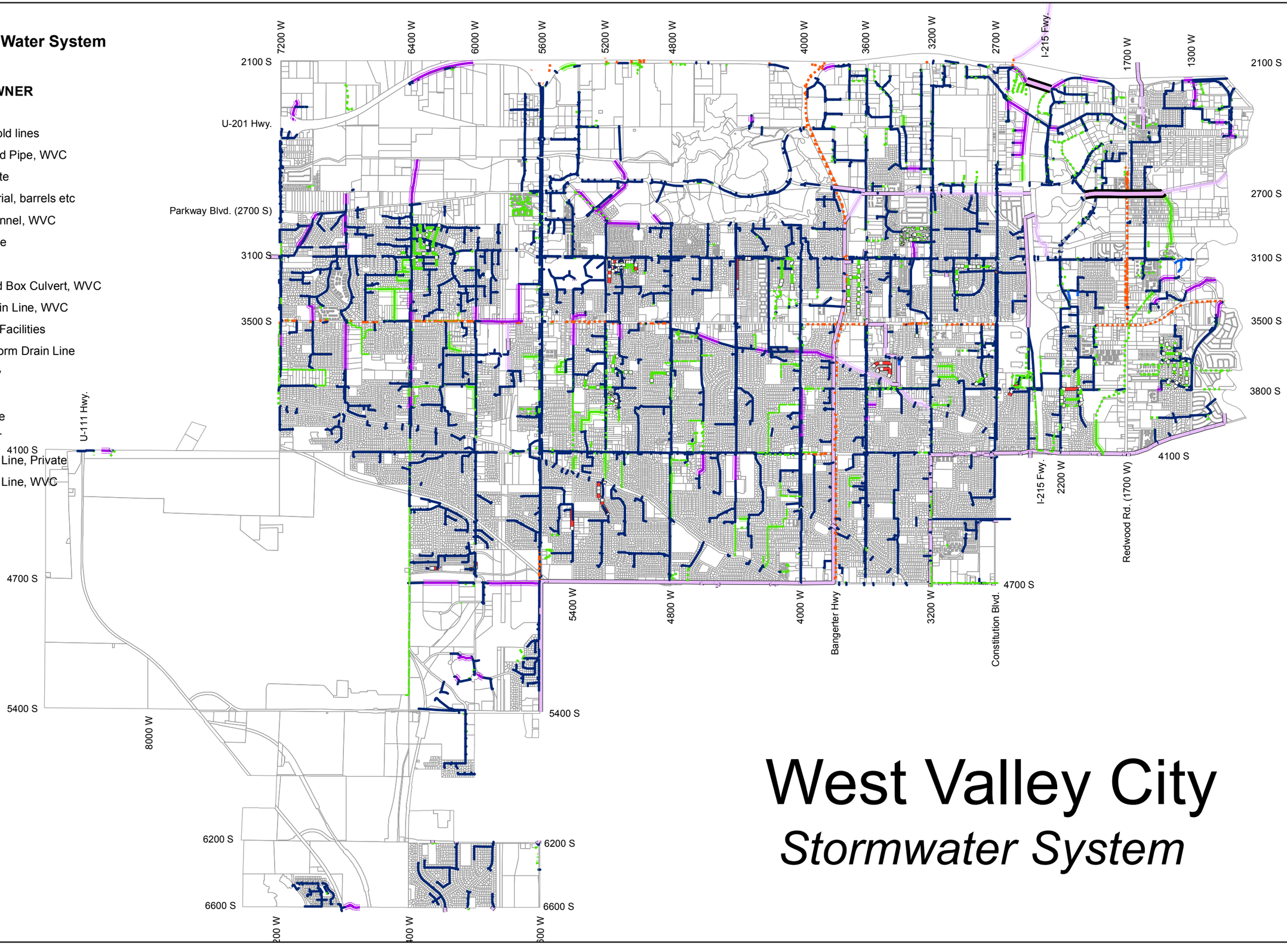
N

WVC Storm Water System

SD_Lines

LINETYPE, OWNER

- unknown old lines
- Abandoned Pipe, WVC
- IRR, Private
- Odd Material, barrels etc
- Open Channel, WVC
- OC, Private
- OC, Cnty
- Reinforced Box Culvert, WVC
- Storm Drain Line, WVC
- SD, WVC Facilities
- County Storm Drain Line
- RBC, Cnty
- SD, GHID
- SD, Private
- SD, UDOT
- Sub Drain Line, Private
- Sub Drain Line, WVC



West Valley City

Stormwater System

West Valley City Base Map

IDDE High Priority Areas

IDDE High Priority Outfalls/Crossings

Scale 1:12,000 (1' = 1,000')

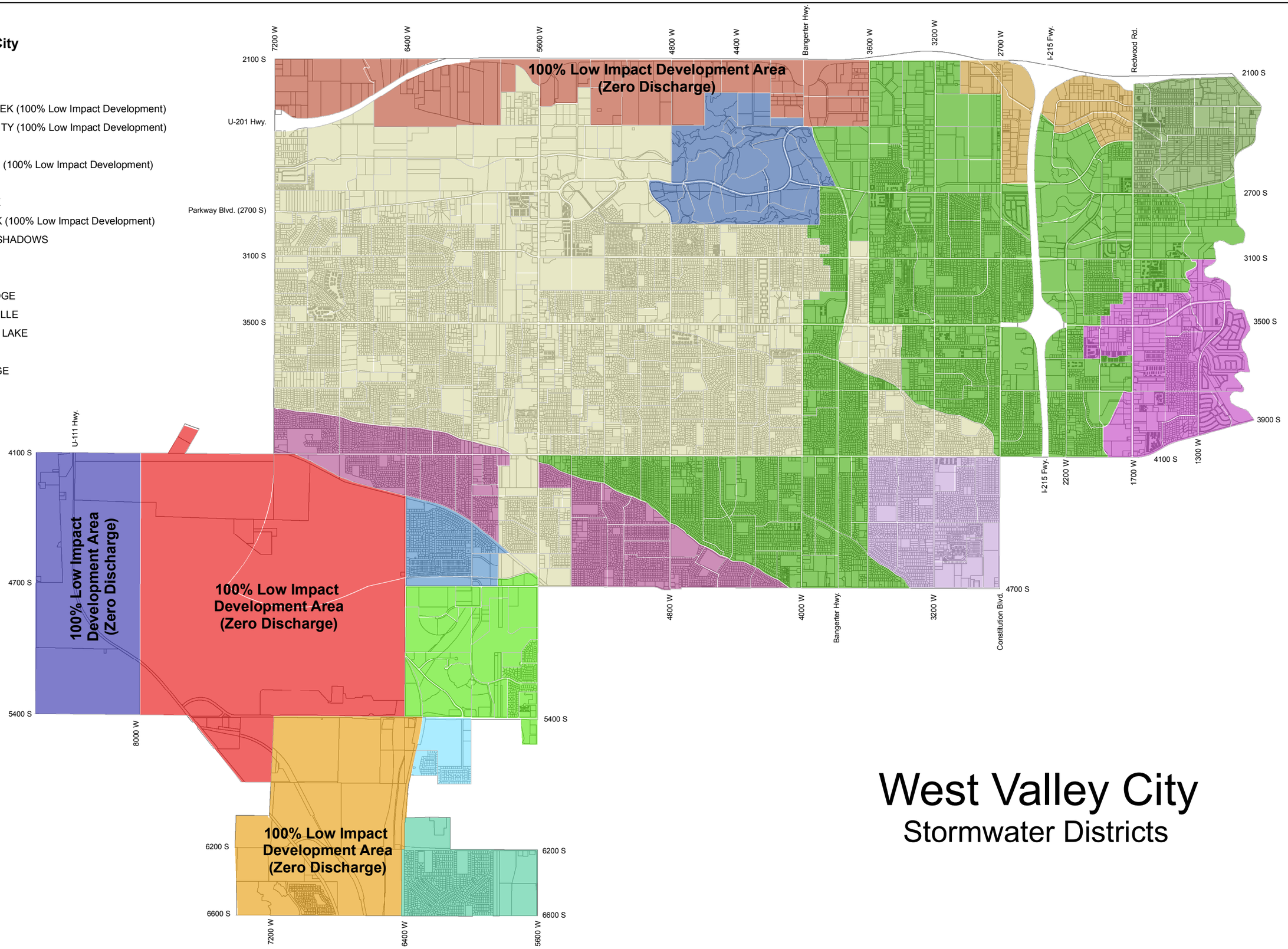
N

WEST VALLEY CITY BASE MAP 6/4/2012

West Valley City

SW Districts

- BRIGHTON
- COON CREEK (100% Low Impact Development)
- COPPER CITY (100% Low Impact Development)
- DECKER
- HERCULES (100% Low Impact Development)
- JORDAN
- LAKE PARK
- LEE CREEK (100% Low Impact Development)
- OQUIRRH SHADOWS
- REDWOOD
- RITER
- SOUTH RIDGE
- TAYLORSVILLE
- UTAH SALT LAKE
- VISTAS
- WEST RIDGE



West Valley City

Stormwater Districts

APPENDIX B

Public Education and Outreach on Storm Water Impacts

SALT LAKE COUNTY STORMWATER COALITION PUBLIC EDUCATION PROGRAM SUMMARY 2013-14 ..... **A9**
WEST VALLEY JOURNAL EDUCATIONAL ADS **A14**
WEST VALLEY CITY PUBLIC OPINION SURVEY STORM WATER QUESTION RESULTS **A15**

MEMORANDUM

TO: **Ben Hunter**

FROM: **Lisa Hartman**

DATE: **December 19, 2013**

RE: **2013 Summary and 2014 Proposed Public Education**

School Program

The Coalition continued to build upon our goal of educating students about stormwater in a fun and entertaining way. The main cornerstone of the Salt Lake County Water Quality Fair, as well as, a educational DVD, printed educational materials, demonstrations and outreach activities regarding the impact of daily activities on stormwater quality, internet/direct mail requests and other activities that reach school age children.

***Salt Lake County Stormwater Quality Fair 2013*:** The Coalition hosted a two day Water Quality Fair for Salt Lake Valley 4th grade students in May of 2013 at Utah's Hogle Zoo. The Water Quality Fair is geared to educate kids in a fun and entertaining way the outside classroom. This was the Water Quality Fair's, seventh successful event with over 2,000 fourth graders attending, as well as 300 adult chaperones.

Fourth graders attended from the following cities: Salt Lake City, Sandy City, West Valley City and Draper City. All participants visited 13 booths designed to educate about stormwater pollution and prevention and other water topics. In addition, all 2,520 guests received printed materials designed to reinforce the principals learned at the water fair.

KSL Weather Lab Project 2013: *KSL Weather Lab is hosted by two local weather personalities at the Discovery Gateway.* Over 2,500 children from Salt Lake County, ages 7 through 11, learn about the effects of stormwater pollution. In addition, they receive Coalition educational materials and fun gadgets to take home and share with their family members. Salt Lake County elementary school children visit the "Weather Lab" twice a week during the months of March, April, May, September and October 2013.

Dr. Strangewater and the Downstream Deputies DVD: The Coalition continues to distribute an educational DVD geared toward elementary school age children, specifically 4th grade students. The DVD entitled "Dr. Strangewater and the Downstream Deputies" educates students about stormwater in a fun and wacky way, giving them valuable tips on keeping stormwater clean.

Strangewater and the Downstream Deputies Activity Book: The activity book is an 8-page stormwater educational booklet designed to supplement and reinforce the key messages from the DVD, in similar fun and wacky delivery. Children are presented with activities that include, but not limited to word searches, crossword puzzles and fill in the blanks. Over 2,500 of the activity books were distributed countywide.

Urban Stew: The purpose of the Urban Stew presentation is to provide students with information regarding the sources and impacts of pollutants to stormwater. The presentation is a fun, visual presentation geared for elementary age children. While this presentation is available to schools, no requests were received during 2012 due in large part to our Water Quality Fair held in May. It is anticipated that the Urban Stew presentations will diminish and be phased out as more stormwater DVD's are distributed and 4th grader visits to the annual Salt Lake County Water Quality Fair continue and grow in numbers each year.

High School Mentor: This program provides training for high school students in order to make the Urban Stew presentation to 4th graders. This program is available upon request; no requests were received during 2012.

General Public Education Program

In addition to the educational programs developed for schools, the Coalition has developed other stormwater education components for the general public. Below is a summary of the activities conducted during 2013:

Droplet Character: In 2008, the Coalition updated and refreshed the look of our brand identity, the *'Droplet character'*. Droplet has and continues to be the identifiable character in conjunction with our *'We All Live Downstream'* slogan for the Stormwater Public Education Program. We will continue to use them both in all new printed and produced piece, as well as, all electronic media.

Spring & Fall 2013 Media Campaign: The Coalition, with the assistance of a consultant conducted a mass media campaign designed to reach a broad audience with the message of preventing stormwater pollution. The Coalition partnered with two of the

top-rated TV stations in the Salt Lake County market in 2013. As a result, we were able to conduct the following activities during the spring and fall of 2013:

* **Television**

  Spring Campaign: A three-week television campaign ran the Coalition Spots during the months of May and June 2013 as part of our partnership with two local TV stations. The Coalition purchased and ran over 130 spots in News and primetime. The spots reached over 1,800,000 viewers a minimum of 3 times during the three-week period. In general it takes a viewer three times to see a message before they incorporate the given message into their daily routine.

  In addition to the Coalition's paid advertising, our partnering TV stations matched the Coalition's media buy with an additional 63 spots that ran during the months of June, July and August 2013. This translates into over one million viewers seeing our spot an additional frequency of 3+ times during the summer months.

  Fall Campaign: A two-week television campaign ran in September/October 2013 as part of Coalition's T.V. partnership. The County purchased and ran over 50 paid spots in News and Primetime. The Fall Campaign translated into over 1,000,000 viewers seeing our commercial a minimum of three times during September and October 2013.

  Live Location Shots on Local News Programming: As part of the partnership package, both local TV Partnership stations produced and ran news story about the Salt Lake County Water Quality Fair on May 2013. One local station had their Daytime TV Personality host 4 remote live shots from the Fair showcasing numerous booth activities with Salt Lake County 4th grade students actively participating, learning about stormwater in a fun, entertaining way. The live remotes were seen by over 150,000 viewers who saw our stormwater message over 3+ times as a result of the two live shots, news teasers and actual running of our spot during the news coverage.

.

  Internet Advertising with local TV Partners

  A teaser, coalition border ad and internet link to our Coalition website was placed on two local TV websites during the months of May, June, July, August, September and October 2013. Between the two websites our advertisement received close to two million hits between both stations over a one-month period. Each station estimates that on a monthly basis over 100,000 new viewers logged-on and viewed our advertisement during the 6 months noted above. We anticipate that as the way people view media changes we will expand this area of

advertising to reach traditional TV viewers who now seek their information via the Internet.

Educational Collateral Materials: These materials are designed to promote and educate the community at large about stormwater quality issues. These materials include information as well as items designed to promote the stormwater program, and are primarily obtained through the Salt Lake County Stormwater Coalition.

> ***Lip Balm and Reusable Grocery Bags:*** In 2013, Lip Balm and Reusable Grocery Bags were produced as leave behinds for giveaways at Public Events and local school distribution. They were a huge success and we plan to order and distribute in 2013. Five thousand bags and ten thousand lip balms were distributed in Salt Lake County.

Public Events: The Coalition participates in information booths each year. The information booths provide an additional mechanism to reach a larger audience regarding stormwater quality. Informational brochures and "leave behind" items such as pencils and magnets are distributed at the booths. In addition, the information booths provide a forum for the public to respond to and comment on the stormwater program. Over 25,000 Salt Lake County residents were exposed to our message at many public events in 2012. Below is a sampling of the events:

May 2013	Salt Lake County Stormwater Quality Fair
August 2013	Salt Lake County Fair
June 2013	KSL Family Fair

In addition over 50,000 promotional materials were distributed to County residents at these events, which continue to put our message, top of mind long after they have seen us at a public event.

Internet and Social Media: In 2013, a website was designed and developed - launching in February 2013. In January 2014 we will begin posting monthly posts in the winter months and bi-weekly blog posts during the spring/summer/fall months to coincide and boost our media campaign. The posts will be designed to educate residents at a more detailed level about stormwater pollution and prevention, a resource for residents to contact their municipalities and look for current events in their local cities. In addition, we will be highlighting the local, urban areas throughout the County that residents can visit that are affected by stormwater.

Social Media: Social Media is quickly becoming the top source for residents to access their news, as well as, interact with entities they share a common commitment. In 2013, our Facebook page, Twitter page and YouTube channel were connected to the Stormwater Coalition website. It is anticipated in 2014 that these social media components in conjunction with the blog posts on the website along with internet advertising with our local TV Partners will allow the Coalition to reach our residents at a more in-depth, personal level. Thereby, having more residents buy in to keeping stormwater clean and incorporate recommendations into their daily lives.

2014 Public Education Campaign:

As noted throughout the 2013 recap, the Stormwater Coalition plans to continue with the following in 2014:

Media Campaign:
Continuing our Public Education Partnerships with local media outlets concentrating on May, June 2014 and September, October 2014.

Coalition Website and Social Media:
We will be supporting our media campaigns with more interaction between our website blog posts and social media outlets such as Facebook and Twitter. Continuing our ongoing conversation with our residents at a more personal level.

4TH Grade Stormwater Quality Fair:
In May of 2014 we plan to continue hosting the annual Fair at Hogle Zoo and broaden our reach with additional schools throughout the Valley. In addition, highlighting the Fair as part of our Media Partnerships in 2014.

Public Events:
In addition to the Water Quality Fair we will continue with strategic public events that reach our large numbers of our County residents throughout 2014.

West Valley Journal Storm Water Campaign Ads

You can prevent storm water pollution!

During the winter months, a clear, warm day tempts many of us to wash our cars. Help prevent storm water pollution by taking your car to a commercial car wash. The dirty water from the carwash is recycled, preventing the contaminants from entering the storm water system. If you do choose to wash your car at home, wash it on a lawn or gravel driveway - the soil will filter out most pollutants.

For more information on how to prevent storm water pollution in West Valley City, visit www.stormwatercoalition.org. To report illegal dumping call 801-509-2005.

You can prevent storm water pollution!

Household hazardous wastes and fluids from your vehicle such as oil and antifreeze are harmful to the environment. If disposed of improperly, these chemicals can poison our land, air, and water. Items such as these should not be dumped down sewers, storm drains, or in garbage cans. For a list of approved dispopsal sites and proper disposal practices for hazardous waste, visit www.stormwatercoalition.org.

For more information on how to prevent storm water pollution in West Valley City, visit www.stormwatercoalition.org. To report illegal dumping call 801-509-2005

You can prevent stormwater pollution!

When it rains, stormwater carries everything in its path right into the storm drain system. Excess fertilizer in the stormwater system promotes unwanted algae growth, reduces dissolved oxygen content in water, and may release ammonia, which is harmful to wildlife. By fertilizing only when needed and making sure to keep fertilizer off paved surfaces, you can do you part to prevent stormwater pollution!

For more information on how to prevent storm water pollution in West Valley City, visit www.stormwatercoalition.org. To report illegal dumping call 801-509-2005

You can prevent storm water pollution!

When it rains, stormwater carries everything in its path right into the storm drain system even those little surprises your pet leaves. Pet waste is full of bacteria that is harmful to people. By picking up you pet's waste and disposing of it properly, you can do your part to prevent storm water pollution!

For more information on how to prevent storm water pollution in West Valley City, visit www.stormwatercoalition.org. To report illegal dumping call 801-509-2005.

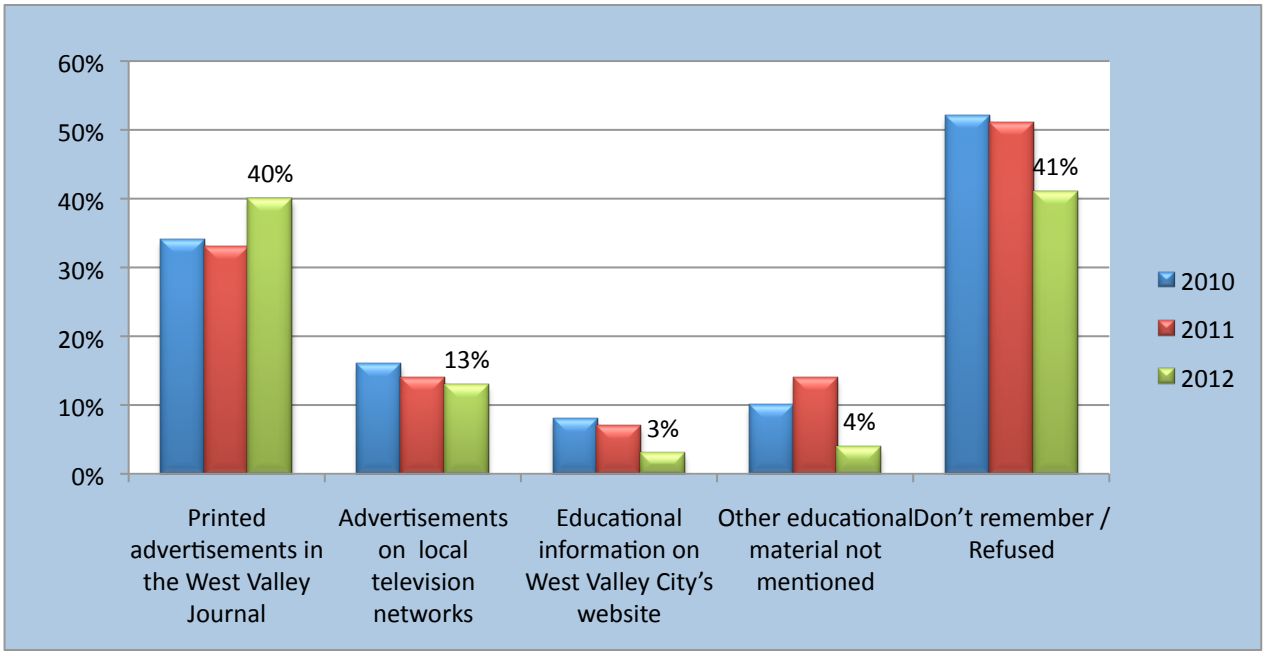
Dispose of Household Hazardous Waste Properly

Household hazardous wastes and fluids are harmful to the environment and should not be dumped down storm drains or thrown away in your garbage. Household hazardous waste includes: paints, pesticides, antifreeze, oil, fuels, vehicle batteries and yard care chemicals. These products must be disposed of properly, for a list of approved disposal sites and proper disposal practices for hazardous waste, visit www.wvc-ut.gov/hhw.

For more information on how to prevent storm water pollution in West Valley City, visit www.stormwatercoalition.org. To report illegal dumping call 801-509-2005

Q38. West Valley City uses a portion of stormwater fees collected to educate the public. In the past year, have you seen any of the following stormwater education pieces?

	2010	2011	2012
Printed advertisements in the West Valley Journal	34%	33%	**40%**
Advertisements on local television networks	16%	14%	**26%**
Educational information on West Valley City's website	8%	7%	**3%**
Other educational material not mentioned	10%	14%	**4%**
Don't remember / Refused	52%	51%	**41%**



APPENDIX C

Illicit Discharge Detection and Elimination

ORDINANCE ENFORCEMENT PERSONNEL FROM THE PUBLIC WORKS DEPARTMENT **A17**
DRY WEATHER SCREENING FORM **A18**
STORM DRAIN INCIDENT RESPONSE REPORT **A19**
ILLICIT DISCHARGE DETECTION AND ELIMINATION LOG SHEET **A22**
SPILL RESPONSE PLAN FLOW CHART **A23**

WEST VALLEY CITY
Unity • Pride • Progress

Engineering Division

MEMO

To:	Eric Bunderson, City Attorney
From:	Russ Willardson, P.E., Public Works Director
cc:	Dan Johnson, P.E., City Engineer
	Jerry Schlief, Engineering Construction Manager
Date:	**Updated** March 28, 2012
Re:	**Storm Water Enforcement**

Eric,

Please find listed below, all Public Works personnel I designate to have authorization to enforce West Valley City's Storm Water Ordinance.

1. Michael Haskell
2. Robert Zito
3. Mike Mirabella
4. Randy Peterson
5. Ryan Ramirez
6. Jerry Schlief

SALT LAKE COUNTY - Storm Water UPDES Permit **Permit No. UTS000001**

DRY WEATHER SCREENING FIELD DATA SHEET

Sheet No.
Outfall ID: (CO or UDOT)
Date
Time

GENERAL INFORMATION

Time Since Last Rain: ☐ >24 hours ☐ <24 hours
Quantity of Last Rain: ☐ >0.1 inch ☐ <0.1 inch
Inspection Team:

FIELD SITE DESCRIPTION

Location:

Dominant Watershed Land Uses:

☐ Initial Inspection ☐ Follow Up

☐ Outfall ☐ Open Channel ☐ Manhole ☐ Other

☐ Hvy. Industry ☐ Lt. Industry ☐ Commercial

☐ Transport ☐ Publ. Land ☐ Agric.

☐ Hvy. Res. ☐ Med. Res. ☐ Lt. Res. ☐ Other

Known UPDES-Permitted Dischargers Upstream: (Names of major industries, neighborhoods, etc.)

FLOW ESTIMATION AT TIME OF SAMPLING

Flow Observed? Yes ☐ No ☐ _____ CFS Measured or Approximated (circle one)

Approx. Dimensions:

Pipe Diameter _____ INCHES
Channel Width _____ FEET

Box Culverts ____ ft. by ____ ft.
Number of boxes ____

Bucket & Stopwatch Method (preferred):		Dimensions & Velocity Method: For Rectangular Channel		For Circular Pipe	
A. Volume of water collected		A. Water Surface Width (ft)		A. Flow Depth (ft.)	
B. Time elapsed during		B. Depth of Water (ft)		B. Flow Area (sq. ft.)	
C. Flowrate (gal/sec)=A/B		C. Flow Velocity (ft/sec)		C. Flow Velocity (ft./sec.)	
D. Flowrate (cfs)=C/7.48		D. Flowrate (cfs) = AxBxC		D. Flowrate (cfs)=BxC	

VISUAL OBSERVATIONS

Photo Taken? ☐ Yes ☐ No Roll No. ____ Frame No. ____

Odor:	Color:	Turbidity:	Floatables:
☐ None	☐ Clear	☐ Clear	☐ None
☐ Musty	☐ Red	☐ Cloudy	☐ Vegetation
☐ Sewage	☐ Yellow	☐ Opaque	☐ Oily
☐ Rotten Eggs	☐ Brown	☐ Suspended Solids	☐ Garbage
☐ Sour Milk	☐ Green	☐ Other:	☐ Sewage
☐ Other:	☐ Grey		☐ Other:
	☐ Other:		

Deposits/Stains:	Biological:	Vegetation	Structural Condition:
☐ None	☐ None	☐ None	☐ Normal
☐ Sediments	☐ Mosquito Larvae	☐ Normal	☐ Concrete spall/cracks
☐ Oily	☐ Bacteria/Algae	☐ Excessive Growth	☐ Metal Corrosion
☐ Other:	☐ Other:	☐ Inhibited Growth	☐ Other:
		☐ Other:	

WATER QUALITY PARAMETER MEASUREMENTS

Date			pH		units
Time		MST	Ammonia		mg/L
Temperature		degrees C	Surfactants		mg/L
Specific Conductivity		mSiemens/cm	Metals Toxicity	reactive ☐	non - reactive ☐

ACTION LEVELS

☐ No further investigation
☐ Exceeds action level
☐ Exceeds reportable level

COMMENTS (additional space on back)

Storm Drain Incident Response Report

Date of Incident:	Date/Time Notified of Incident:	Duration:
Method of Discovery:		
Date/Time Investigation Initiated:		
Date of Removal, Repair or Enforcement Action:		
Date and Removal Verified By:		

Location of Incident:_____

Chemical or substance involved in and description of the spill or discharge:

Estimate the amount spilled or discharged:_____

Any discharge to the Storm Drain? Yes_____ No_____

Is the spill hazardous, or the chemical spilled unknown? Yes_____ No_____

Analytical Monitoring Required? Yes_____ No_____

Describe the decision process to require or not require analytical monitoring:

If spill is hazardous, evacuate West Valley City employees, contractors and the general public a SAFE DISTANCE from the spill. Report the spill immediately to West Valley City HAZMAT for containment and further instructions from the HAZMAT INCIDENT COMMANDER.

Storm Drain Incident Response Report

Description and Nature of
Incident:_____
_____
_____
_____

Safety Pre-cautions initiated for spill
cleanup:_____
_____
_____
_____

Containment
Used:_____
_____
_____
_____

Cleanup and Disposal of spill or
discharge:_____
_____
_____

Photos Taken: Yes_____ No_____

Cease and Desists Order: Yes____ No____

Person Given Cease and Desists Order:
Last_____First_____

Relation to Violation:_____

Citation or Penalties to be assessed: Yes_____ No_____

Storm Drain Incident Response Report

Who Responded?

_____

_____

_____

Was Spill reported to the State of Utah: Yes_____ No____

**NOTE: All Sanitary Sewer Overflows are to be reported to the Department of Water Quality and the local improvement district.

Responsible Company or Party:

Business Name:_____

Contact Person:_____

Phone Number:_____

Email:_____

Business Name:_____

Contact Person:_____

Phone Number:_____

Email:_____

West Valley City Engineering Division

Printed Name Of Incident Responder:_____

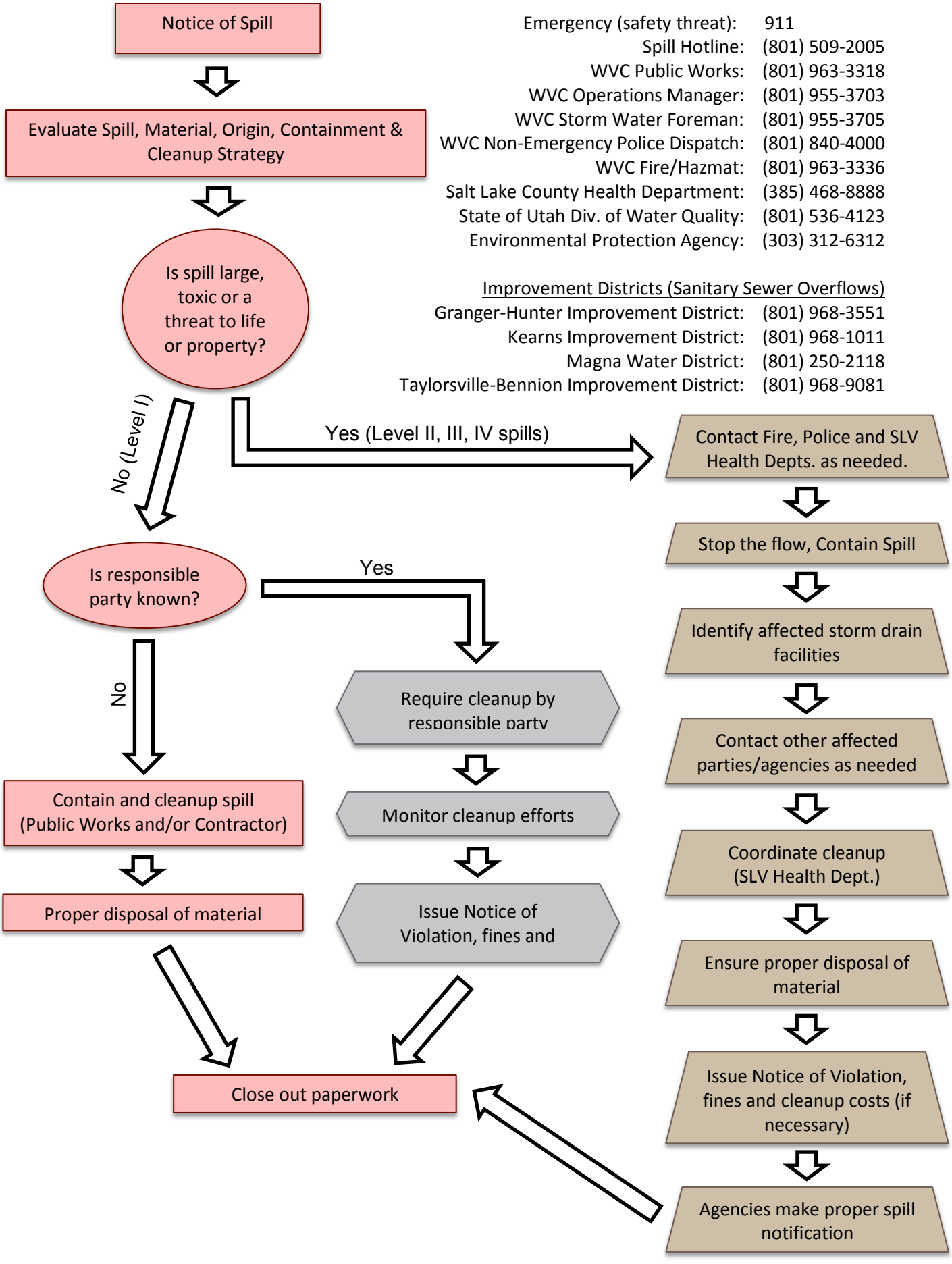
Signature:_____

Date:_____

West Valley City -- Illicit Discharge Detection and Elimination -- LOG SHEET

Date/Time	Location	Resident/ Business	Inspector	Infraction - Discharge Point	Action Taken	Citation Number

West Valley City Public Works
Spill Response Plan Flow Chart



Emergency (safety threat):	911
Spill Hotline:	(801) 509-2005
WVC Public Works:	(801) 963-3318
WVC Operations Manager:	(801) 955-3703
WVC Storm Water Foreman:	(801) 955-3705
WVC Non-Emergency Police Dispatch:	(801) 840-4000
WVC Fire/Hazmat:	(801) 963-3336
Salt Lake County Health Department:	(385) 468-8888
State of Utah Div. of Water Quality:	(801) 536-4123
Environmental Protection Agency:	(303) 312-6312

Improvement Districts (Sanitary Sewer Overflows)

Granger-Hunter Improvement District:	(801) 968-3551
Kearns Improvement District:	(801) 968-1011
Magna Water District:	(801) 250-2118
Taylorsville-Bennion Improvement District:	(801) 968-9081

APPENDIX D

Construction Site Storm Water Runoff Control

SWPPP Guidelines for Non-Contractor A25
Lot SWPPP Exhibit For Non-Contractor A27
Pre-Construction Meeting Agenda A29
Storm Water Training Video Topics A32
SWPPP Compliance Inspection Form A33

Stormwater Pollution Prevention Plan Guidelines

Stormwater runoff from construction activities can have significant impact on water quality by contributing sediment and other pollutants to creeks, streams, lakes, etc. Under the Federal Clean Water Act, The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating sources of pollution that discharge into waters of the United States.

It is your responsibility to protect your construction site from pollutants entering the City's Stormwater System.

Please find listed, things you will need to obtain prior to any construction activities on your site.

- **Notice of Intent (NOI) -** Must be obtained from Utah DWQ: Division of Water Quality www.waterquality.utah.gov

- **Storm Water Pollution Prevention Plan (SWPPP) –** A plan identifying areas of concern on or near your construction site that will need to be protected from construction site run-off. Four major components of the SWPPP are:

    - Pollution Prevention ECS – Environmental Control Supervisor;
    - Site Map;
    - Description of potential pollutant sources;
    - Measures and controls for stormwater management;

- **Pollution Prevention ECS :** Appoint a person to develop a Pollution Prevention Plan. In addition, this person is responsible for keeping the Plan current – this means modifying it whenever changes in locations, materials, processes or other activities would render the plan inaccurate.

- **Site Map:** Must identify the site (project boundaries) and it should indicate topographic features of the site such as hills and ditches.

    - Draw or outline the site as close to scale as possible on a piece of paper. Ensure that the site plan/map is big enough to contain the required information below:

        - Locate and identify each stormwater outfall or drainage ditch that conveys water off-site and include control measures to reduce pollutants in the runoff.
        - Identify on the site map locations of site specific BMP's.
          i.e. Dumpsters, concrete wash out, portable toilet, track pad, silt fence, inlet protection, identify loading and unloading areas, etc
        - Drainage patterns

- **Description of Potential Pollutant Sources:** The site plan has already identified much of the required information. This section should include:

    - Drainage and site map identifying potential pollutant sources.

- **Measures and Controls for Stormwater Management:**

    - Good Housekeeping
    - Preventive Maintenance
    - Spill response and response procedures
    - Site Inspection
    - Recordkeeping
    - BMP Placement

Utah Division of Water Quality -
Required Storm Water Permit Information

Operators of construction activities that disturb 1 acre or greater are required to get a Storm Water Permit from the Utah Division of Water Quality, however many construction sites that disturb less than 1 acre are also required to get a permit. A site that is less than 1 acre is required to get permit coverage if it is part of a "common plan of development or sale" that is over 1 acre.

For sites less than 1 acre that are part of a larger development, the following items are required from the Site Operators:

- Obtain an electronic copy of the approved Storm Water Pollution Prevention Plan for your development from the West Valley City Engineering Department. Please contact Brad Taylor brad.taylor@wvc-ut.gov or Walt Weidner walt.weidner@wvc-ut.gov.

- Submit an Erosion Control Plan to the West Valley City Engineering Department (see attached example).

- Obtain a Storm Water Permit from the Division of Water Quality

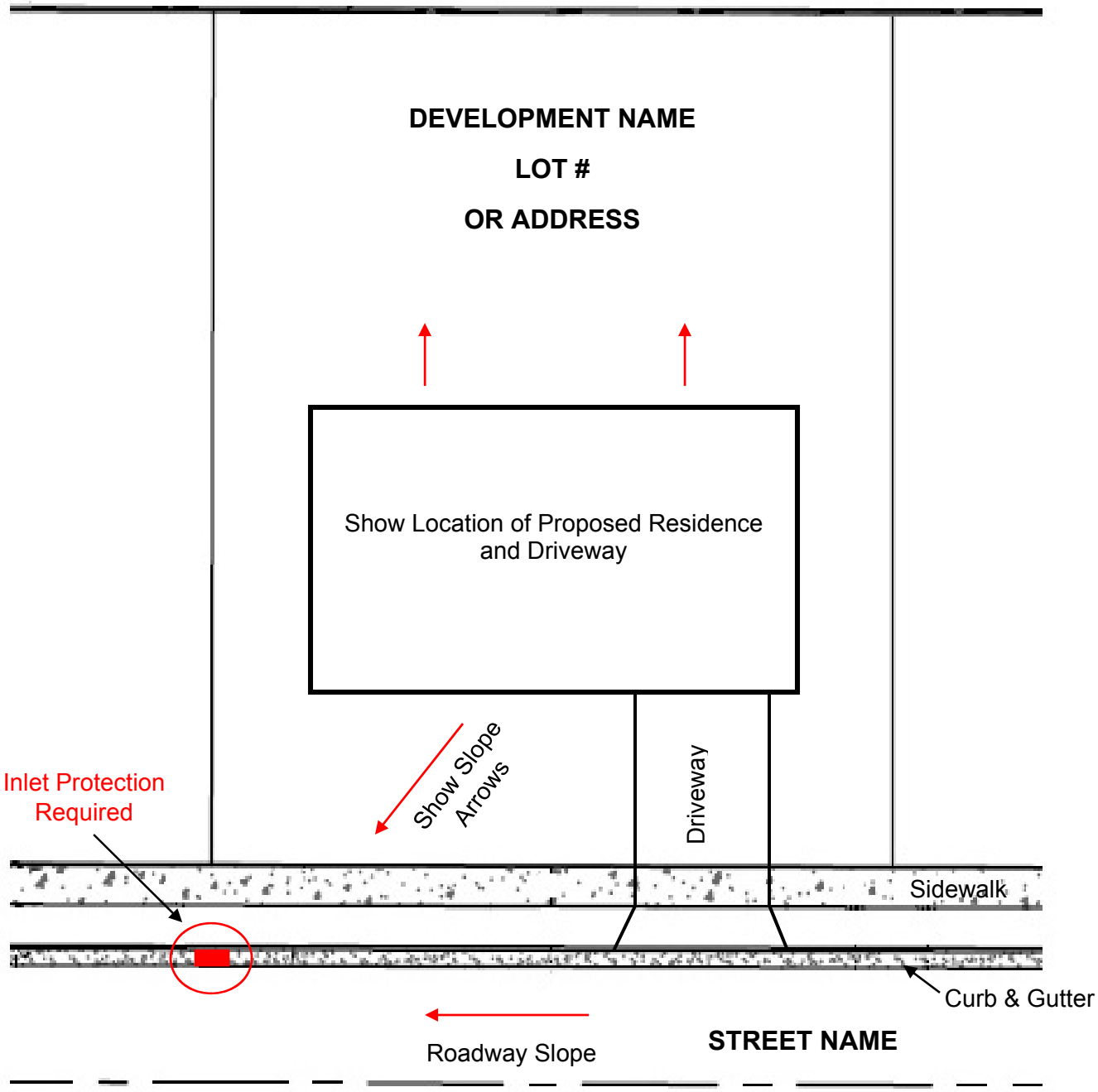
  https://secure.utah.gov/account/login.html?returnToUrl=https%3A%2F%2Fsecure.utah.gov%2Fstormwater%2Fuii_authentication

Additional Information:

http://www.waterquality.utah.gov/UPDES/stormwatercon.htm

http://www.waterquality.utah.gov/UPDES/stormwatercon_FAQs.htm

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4



- A digital copy of the original SWPPP for the development can be obtained from West Valley City
- The contractor is responsible for keeping streets clean and free from site debris
- No concrete washout permitted on site
- Protect downstream inlet with filter sock or gravel bags
- Other BMPs may be required depending on lot topography (Berms, Silt Fence, etc.)
- Routine checks of all erosion control measures shall be made to determine if repairs or sediment removal is required

WEST VALLEY CITY
Engineering

Pre-Construction Meeting Agenda

Date:		Time:	
Project:		Project #:	
Contractor:			
Address:			
Phone(s):		Fax:	

1. Contractor Project Representative: _____
2. 24 Hr. Emergency Contact Number(s): _____
3. City Project Manager: Jerry Schlief
4. City Project Engineer: Dan Johnson
5. Utility Coordination:
    a. **Century Link:**
        i.
    b. **Utopia:**
        i.
    c. **Questar:**
        i.
    d. **Rocky Mountain Power:**
        i.
    e. **Water and Sewer District**

i.

f. **UTA**
   i.

g. **Storm Drain:**
   i.

6. Contractor Submittals:
   a. Progress Schedule
   b. Traffic Control Plan
   c. Subcontractor & Supplier Report
   d. Materials – Must be submitted and approved by West Valley City
      i. Fill Material – Sieve Analysis/Soil Classification/Proctor
      ii. Asphalt – Mix Design
      iii. Concrete – Mix Design
      iv. Storm Drain System – Pipe/Boxes/Fittings/etc…

7. Permits:

8. Storm Water Pollution Prevention Plan (SWPPP)
   a. Verify NOI issued from State
   b. Verify WVC Storm Water Permit
   c. Identify Contractor Environmental Control Supervisor (ECS)
      i. Name: _____
      ii. Phone: __(_____)_____-_____.
   d. Review SWPPP
      i. Site Map
      ii. Identify required BMP's
      iii. Identify BMP locations
      iv. Contractor Site Inspection Requirements
         1. Daily Inspection
         2. Pre Storm Event
         3. Post Storm Event
         4. Weekly Documentation
            a. Note all findings
            b. Corrective Actions Taken
   e. UPDES Inspections - UPDES Inspections will take place at a minimum once a month during the active construction progression.

f. **This is your only warning! Citations will be issued for failure to comply with SWPPP or city ordinance.**

9. Inspection & Testing: ***Must schedule 24 hrs. in advance (963-3318).***

10. Change Orders – ***All change orders must be approved prior to work. A work directive may be issued by City Project Manager.***

11. Contract Plans & Specifications – ***Per APWA 2012 Edition.***

12. Project Appearance & Maintenance:

13. Payment:
    a. Partial Payments (1 per month)
    b. 5% Retention will be held until the end of the project.

WE HAVE REVIEWED THE ITEMS OF THE PRECONSTRUCTION MEETING AGENDA AND THEY HAVE BEEN EXPLAINED TO ME BY A WEST VALLEY CITY REPRESENTIVE.

Owner/Contractor:_____ Date:_____

Project Manager:_____ Date:_____

Superintendent:_____ Date:_____

Notes:

TOPICS COVERED IN THE WEST VALLEY CITY STORMWATER TRAINING VIDEOS

West Valley City has obtained Three Stormwater Training Videos from Excal Visual to help train both the contractor and employee. These three videos cover all aspects of the MS4 requirements. West Valley City has also put together a power point presentation identifying several stormwater practices to be followed while working on construction projects in the City.

- **Ground Control –** Stormwater Pollution Prevention for Construction Sites: Topics discussed in this video:
    - Compliance With Stormwater Regulations
    - General BMP Awareness Training
    - Site-Specific BMP Training
    - SWPPP – Storm Water Pollution Prevention Plan
    - Clearing and Grading undeveloped land and its effects on the environment.

- **Storm Warnings** – Stormwater Pollution Prevention:
  This video focuses on describing and giving common examples of the basic categories of BMPs. Topics discussed in this video:
    - Good Housekeeping
    - Materials Management
    - Spill Response
    - Equipment Fueling and Repair
    - Outdoor Manufacturing
    - Preventive Maintenance
    - Waste Management
    - Dust Producing Process

- **Storm Watch** – Municipal Storm Water Pollution Prevention:
  This video focuses on several types of BMPs used for Municipal facilities:
    - Good Housekeeping and Spill Prevention
    - Illicit Discharge Detection
    - Landscaping and Lawn Care Application
    - Vehicle and Equipment Maintenance
    - Vehicle and Equipment Washing
    - Spill Reporting and Response
    - Outdoor Storage of Materials and Wastes

SWPPP COMPLIANCE INSPECTION FORM

Project Name:	Address:	Date:
Owner:	Contractor (Gen/Sub):	Start time:
Site Contact:	Phone:	Stop time:
UPDES Permit #: Expiration:	Weather: Sunny Cloudy Raining Snowing Other:	
Date of last rain event:	Duration:	Approx. Rainfall (in):
Inspected By (Print):	Local Jurisdiction or County:	
Reason for Inspection: Scheduled Complaint/Tip Random	Receiving Waters:	
Inspection Code (circle): SW sampling SW non-sampling	Inspector Code (circle): (S) State (L) Local	Type Code (circle): 1 - Municipal 2 - Industrial 3 - State

SWPPP, EROSION, SEDIMENT AND HOUSEKEEPING BMP's INFORMATION	YES	NO	N/A
1. Is the SWPPP on site and accessible, or is the SWPPP location posted in an obvious place and reasonably accessible (in a short time)?			
2. Are erosion control, sediment control, and good housekeeping BMP's installed on the site as shown in the SWPPP?			
3. Has the SWPPP been updated to reflect the current site conditions (modifications dated & initialed on site map, new BMPs on site map, discontinued BMPs crossed off site map, new BMP details & spec's in SWPPP, SWPPP amendment Log, etc.)?			
4. Are on-site inspections being performed and recorded by a qualified person on a weekly or biweekly basis, reporting items required by permit? (Inspector name &qualifications, weather, problems/repairs, corrective action, new BMPs, removed BMPs, discharges, etc.)			
5. Have all corrective action items from previous inspections been addressed and documented within the time frame allotted by the inspector?			
6. Are SW flows entering and leaving the construction site controlled, managed, or diverted around the site? (e.g. perimeter controls, berms, silt fence, upgradient boundary diversion, down gradient boundary sediment control, etc.)			
7. Is there evidence of sediment discharge such as mud flows or soil deposits from the construction site in downstream locations?			
8. Is there evidence of vehicles tracking soil off the construction site?			
9. Is there soil, construction material, landscaping items, or other debris piled on impervious surfaces (roads, drives) that could be washed with SW to a storm drain or water body?			
10. Is there a need to repair, maintain, or improve erosion control BMPs (temporary stabilization, erosion blankets, mulch, vegetated strips, rip rap, surface roughening, pipe slope drain, dust control, etc)?			
11. Is there a need to repair, maintain, or improve sediment control BMPs (silt fence, check dams, fiber rolls, sediment trap/basin, inlet protection, waddles, straw bails, curb cut-back, etc?			
12. Is there a need to repair, maintain, or improve good housekeeping controls (clean track out pad, sweeping, construction materials management, litter/trash control, port-o-potties staked down, fueling areas, concrete wash out area, proper curb ramps, spill prevention, etc)?			
13. Are there disturbed areas that have not had construction activities for 14 to 21 days without stabilization? (except snow or frozen ground)?			
14. Are there places where BMPs are needed and should be installed or not needed and should be removed?			

COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Identify the problem and its location. If appropriate, describe (in general terms) what needs to be completed. However, only if qualified (e.g., you are a designer) should you be mandating specific BMPs to install. Include the date when corrections are made.

Inspector, please list all applicable SEV codes:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

(Print Name) (Title) (Signature) (Date)

APPENDIX E

Long-Term Storm Water Management in New Development and Redevelopment

Outline for Storm Water Management Plan A35
Draft of Updated Outline for Storm Water Management Plan A36
Commercial Plan Checklist A37
Preliminary Subdivision Plat Checklist A38
Final Subdivision Plat Checklist A39
Subdivision Plans Checklist A40
Storm Water Construction Permit Application A41
Storm Water Construction Permit A42
Storm Water Management Permit Application A43
Storm Water Management Permit A44
Draft of Storm Water Quality Checklist A45
Post-Construction Structural Control Inspection Form A46

OUTLINE FOR
STORM WATER MANAGEMENT PLAN
with Commercial/Industrial Best Management Practices

Commercial/Industrial Best Management Practices (BMPs) are those measures and/or practices to be maintained by the property owner or operator to prevent illicit discharges, pollutants and other contaminants from entering the City storm water system. These measures and practices are to be implemented upon completion of construction activities, to be conducted and maintained in perpetuity, and will typically address the following:

- **Inspection and cleaning of Oil/Water Separator(s)** – Indicate that oil/water separator(s) are to be inspected monthly and are to be cleaned at least every six months.
- **Parking lot cleaning and sweeping** – Indicate that parking lots are to be cleaned and swept at least monthly to prevent pollutants from entering the storm drain system.
- **No washing of vehicles permitted on site** – Indicate that no washing of vehicles will be permitted on site. The only exception is for specifically designed and approved car or truck washing facilities which drain to the sanitary sewer system**.**
- **Storage of chemicals, cleaners, solvents, oils etc**. – Indicate *what* chemicals, cleaners, solvents, oils, etc. will be stored; *where* they will be stored; and *how* they will be stored.
- **Waste management and disposal** – Indicate *what* will be disposed of, *where* they will be disposed of, *how* they will be disposed of, and by *whom*.
- **Landscape maintenance** – Indicate *what* general landscaping maintenance will be needed, *what* fertilizers will be used, and *who* will perform the maintenance.
- **Employee training** – Indicate that property owner is to provide or require training in storm water quality management and required commercial/industrial BMPs for all employees. Storm water quality management and required commercial/industrial BMPs shall be integrated with any other existing employee training programs. In addition to listed BMPs, training shall also address the proper use, handling, storage and disposal of products, spill prevention and clean up, and any other items related to the specific site or use.
- **Record of inspection, maintenance and training activities** – Indicate that records of inspections, maintenance, and training shall be kept on site and made available for review by city and/or state officials upon request. An inspection of the site will be conducted by the city annually, or more frequently as may be deemed necessary.
- **Any BMPs required for a specific site or use** – Indicate any BMPs required specifically for the specific site or for a specific use such as fuel storage, vehicle fueling, vehicle maintenance and repair, hazardous waste management, outdoor storage of raw materials etc. that may occur on site.

OUTLINE FOR
STORM WATER MANAGEMENT PLAN
And Long Term Post Construction Best Management Practices
For Commercial, Industrial, and Multi-Family Developments

Long Term Post Construction Best Management Practices (BMPs) are those measures and/or practices to be maintained by the property owner or operator to prevent illicit discharges, pollutants and other contaminants from entering the City storm water system. These measures and practices are to be implemented upon completion of construction activities, to be conducted and maintained in perpetuity, and will typically address the following:

- **Inspection and cleaning of Oil/Water Separator(s) and Sediment Trap(s)** – Indicate that oil/water separators and sediment traps are to be inspected monthly and are to be cleaned at least every six months. Include technical submittals, from the manufacturer, to ensure the Oil/Water Separator is sufficiently sized for the site storm water.
- **Parking lot cleaning and sweeping** – Indicate that parking lots are to be cleaned and swept at least monthly to prevent pollutants from entering the storm drain system.
- **No washing of vehicles permitted on site** – Indicate that no washing of vehicles will be permitted on site. The only exception is for specifically designed and approved car or truck washing facilities which drain to the sanitary sewer system**.**
- **Storage of chemicals, cleaners, solvents, oils etc**. – Indicate *what* chemicals, cleaners, solvents, oils, etc. will be stored; *where* they will be stored; and *how* they will be stored.
- **Waste management and disposal** – Indicate *what* will be disposed of, *where* they will be disposed of, *how* they will be disposed of, and by *whom.*
- **Landscape maintenance** – Indicate *what* general landscaping maintenance will be needed, *what* fertilizers will be used, and *who* will perform the maintenance. Identify any areas where long term erosion control may be necessary. Identify erosion control BMPs to be used on-site and frequency of inspection/maintenance.
    - For sites that drain to the Jordan River (Jordan, Decker, Taylorsville, and Redwood Drainage Districts), identify post-construction housekeeping measures, and management of organic matter. Specifically address good housekeeping procedures (for grass clippings, leaves, etc.), proper fertilizing procedures, and other treatments for organic matter.
- **Employee training** – Indicate that property owner is to provide or require training in storm water quality management and required commercial/industrial BMPs for all employees. Storm water quality management and required commercial/industrial BMPs shall be integrated with any other existing employee training programs. In addition to listed BMPs, training shall also address the proper use, handling, storage and disposal of products, spill prevention and clean up, and any other items related to the specific site or use.
- **Record of inspection, maintenance and training activities** – Indicate that records of inspections, maintenance, and training shall be kept on site and made available for review by city and/or state officials upon request. An inspection of the site will be conducted by the city annually, or more frequently as may be deemed necessary.
- **Any BMPs required for a specific site or use** – Indicate any BMPs required specifically for the specific site or for a specific use such as fuel storage, vehicle fueling, vehicle maintenance and repair, hazardous waste management, outdoor storage of raw materials etc. that may occur on site.

Project Name:_____ **WEST VALLEY CITY ENGINEERING COMMERCIAL,**
Address:_____ **INDUSTRIAL & MULTI-FAMILY PLANS CHECKLIST**

Site Plan requirements:

- ☐ 1. Show existing off-site improvements on opposite and adjacent frontages, including drive approaches, existing utilities, storm drain, sewer, water, and proposed improvements.
- ☐ 2. Dimension site plans (i.e. drive approach widths, throat length, setbacks, etc.).
- ☐ 3. Include north arrow, scale, vicinity map and legend.
- ☐ 4. Show plan and profile and/or spot elevations of sidewalk, curb and gutter.
- ☐ 5. Indicate right-of-way dedication, if necessary, to match major street plan. Include road centerline information (ties to existing monuments).
- ☐ 6. Submit two sets of project plans (24"x36" sheets required).
- ☐ 7. Reference plans to specific APWA Standard Plans and Specifications and WVC standards.

Site Drainage Plan requirements:

- ☐ 8. Submit an overall grading and drainage plan for the entire site. Include final and existing contours at no greater than 1 foot intervals. Identify County benchmark and elevation.
- ☐ 9. Include runoff, required storage, provided storage, and orifice sizing calculations, stamped by a P.E. (calculations to be shown on Site Drainage Plan).
- ☐ 10. Detention required based on a 10 year FID curve (typically 0.2 cfs/acre). Call Steve Dale (963-3218) for release rate.
- ☐ 11. High water contour required in detention areas. Identify orifice plate location, size and elevation.
- ☐ 12. Provide oil/water separator for all parking areas.
- ☐ 13. Show directional flow arrows for all gravity-flow piping on plans. Include size, type, slope and length of pipes. All storm drain piping within the public right-of-way to be minimum 15" RCP.
- ☐ 14. Label invert, grate and/or lid elevations of storm drain inlets and boxes.
- ☐ 15. Show all irrigation and drainage ditches and proposed piping.

Storm Water Construction Permit requirements:

- ☐ 16. Storm Water Pollution Prevention Plan (SWPPP) per the Utah Department of Environmental (DEQ) SWPPP template is required. Construction Period Best Management Practices (BMPs) to include inlet protection, portable toilets, concrete washout, silt fences, sediment and erosion control etc. Include BMP details on plans.
- ☐ 17. Complete West Valley City Storm Water Construction Permit application.

Storm Water Management Permit requirements:

- ☐ 18. Storm Water Management Plan with Commercial and Industrial Best Management Practices (B.M.P.s), to be written in cooperation with property owner, and for specific site and land use.
- ☐ 19. Complete West Valley City Storm Water Management Permit Application.

External Agency approvals

UDOT access permit required (State roads); City access approval (Erik Brondum 963-3406).
Addresses approved by Steve Lehman (963-3311) in CED (room 220).
Written approval from water users to pipe or abandon any existing ditches on property.
Salt Lake County Flood Control permit, if applicable.

I certify that I have addressed the items in the preceding checklist. I understand that incomplete plans will be returned without review and a $50 recheck fee will be required.

_____
Authorized Signature
Please attach the business card of the person responsible for receiving corrected plan

WEST VALLEY CITY
ENGINEERING & PLANNING DIVISIONS
PRELIMINARY PLAT REQUIREMENT CHECKLIST

- ☐ A vicinity sketch at a scale of 1000 feet or more to the inch. The vicinity sketch shall show the street and tract lines and names and numbers of all existing subdivisions, and the outline of parcels of land adjacent to the proposed subdivision.
- ☐ The date, North point, written and graphic scales (North to top or right of sheet).
- ☐ A legal description to define the location and boundaries of the proposed subdivision.
- ☐ The location, names and existing widths of adjacent streets.
- ☐ The contours, at one-foot intervals, for predominant ground slopes within the subdivision between level and five percent, and two-foot contours for predominant ground slopes within the subdivision over five percent. Such contours shall be based on Salt Lake County datum. The closest City or County survey monument shall be used and its elevation called out on the map. Survey monument information shall be obtained from the Salt Lake County Surveyor.
- ☐ A grading and drainage plan showing the proposed grading of the subdivision. Contours should be consistent with Section 7-19-603(2)(j).
- ☐ Preliminary indication of needed storm drainage facilities with location, size and outlets of the drainage system. Preliminary Drainage calculations to include flows from offsite, flows to be generated onsite, and flows to be discharged to existing storm drain systems.
- ☐ The boundaries of areas subject to flooding or storm water overflow, as determined by the Public Works Department, and the location, width and direction of flow of all watercourses, including all existing and proposed irrigation and natural runoff channels and courses.
- ☐ The locations, proposed names, widths and a typical cross section of curbs, gutters, sidewalks and other improvements of the proposed street and access easements.
- ☐ Street names to be approved by the Salt Lake County Auditor's office.
- ☐ Preliminary location and size of sanitary sewers, water mains and any other public or private utility.
- ☐ The dimensions and locations of all existing or proposed dedications, easements and deed restrictions. These shall include easements for drainage, sewerage and public utilities.
- ☐ The location of any of the foregoing improvements which may be required to be constructed beyond the boundaries of the subdivision.
- ☐ The name of the subdivision. Such subdivision names shall not duplicate or nearly duplicate the name of any subdivision in the City or in the incorporated and unincorporated area of Salt Lake County.
- ☐ Layout of all lots, including the average and minimum lot size, lot divisions, building setback lines and consecutive numbering.
- ☐ The name and address of the subdivider and his or her agent, if applicable.
- ☐ The name and address of the person, firm or organization preparing the preliminary plat.
- ☐ The names and numbers of adjacent subdivisions and the names of owners of adjacent unplatted land.
- ☐ The location of all isolated trees worthy of preservation with a trunk diameter of four inches or greater, within the boundaries of the subdivision, and the outlines of groves or orchards.
- ☐ The existing use or uses of the property and the outline of any existing buildings and their locations in relation to existing or proposed street and lot lines drawn to scale.
- ☐ The location and description of all existing fencing.
- ☐ A statement of the present zoning and proposed use of the property, as well as proposed zoning changes, whether immediate or future.
- ☐ Location and dimensions of proposed sites to be dedicated or reserved for open space or recreational use.
- ☐ Any proposed lands to be reserved in private ownership for community use.
- ☐ The boundaries of phases, along with the estimated construction schedule for each phase.
- ☐ The words "Preliminary Plat - Not to be Recorded" shall be shown on the plat.

"I certify that I have addressed the items in the preceding checklist. I understand that incomplete plats will be returned without review, and a $50 recheck fee will be required."

_____

Authorized Signature

WEST VALLEY CITY ENGINEERING & PLANNING DIVISIONS
FINAL PLAT REQUIREMENT CHECKLIST FOR MAJOR & MINOR SUBDIVISIONS

Plat Requirements

- ☐ Title shall include approved name and phase number of subdivision, 1/4 Section, Township and Range followed by words "West Valley City."
- ☐ Signed and sealed by surveyor.
- ☐ Total acres shown.
- ☐ Total number of lots given.
- ☐ Description agrees with drawing.
- ☐ Lot distances equal boundary and street distances.
- ☐ Written and graphic scales, and North arrow shown (North to top or right of sheet).
- ☐ Vicinity map.
- ☐ Monument, hydrant, and easement key/legend shown.
- ☐ Monuments shown at intersections, P.C. and P.T. or at P.I. if within roadway.
- ☐ Monument to monument, and monument to boundary bearings and distances to be labeled.
- ☐ Right-of-Way widths to be labeled at all PC & PT locations.
- ☐ Basis of bearing shown.
- ☐ Subdivision tied to section monument; oriented to two adjoining monuments.
- ☐ Point of beginning shown.
- ☐ Boundary clearly defined (solid heavy line).
- ☐ Ties to adjoining subdivisions shown and checked.
- ☐ Rights-of-way checked; streets within 200' of subdivision boundary to be shown.
- ☐ Proper approach angle on streets; intersections with major streets must dedicate right-of-way to chord.
- ☐ Public utilities and drainage easements (10' front and rear, 8' one side of each lot).
- ☐ Existing easements of record shown on plat.
- ☐ All curve data correct.
- ☐ All necessary distances included and bearings on streets.
- ☐ All lots to close to within 0.020'.
- ☐ Exterior closure within 0.010'.
- ☐ Lot area shown; smallest lots checked for area.
- ☐ Postal easements shown.
- ☐ Hydrants shown (existing and required).
- ☐ Checks with ownership plat; adjoining ownership shown.
- ☐ Street names shown and approved (non-linear streets to have alpha name as well as coordinates). Street names to be approved by Salt Lake County Auditor's office.
- ☐ Lot and street addresses required.
- ☐ Plat to be shown on 24"x36" sheet(s).

Notes Required on Plat

- ☐ A soils report in accordance with Section 7-19-604 of the West Valley City Ordinances has been prepared. Include name of geotechnical engineer or firm, report #, and date.
- ☐ Note indicating historical depth of high water table and elevation of lowest floor slab (min 3' above wt). Include table showing finished floor elevation for each lot referenced to finished TBC (based upon soils report findings).
- ☐ Identify lots where easements for special drainage facilities will be required.
- ☐ Off-set pins to be placed in the back of the curb and 5/8" x 24" rebar with numbered survey cap to be placed at all rear corners prior to any occupancy.
- ☐ Building permits will not be issued for any structure until 1) asphalt paving is installed; and 2) fire hydrants are installed, approved & charged.
- ☐ This area is adjacent to Agriculturally Zoned property and is subject to the normal, everyday sounds, odors, and all other aspects associated with an agricultural lifestyle (If adjacent to A zones).

Additional Requirements

- ☐ Traffic impact study for any subdivision which generates 50 or more peak hour trips, contact Erik Brondum, 963-3406 for requirements.
- ☐ Completion of Utah Pollutant Discharge Elimination System (UPDES) permit required.
- ☐ West Valley City Storm Water Management Permit required.
- ☐ Final plat will not be approved prior to approval of plan and profiles by City Engineer.
- ☐ Current soils report required.
- ☐ The subdivider shall install a six-foot nonclimbable chain link fence along all canals, waterways, non-access streets, open reservoirs or bodies of water, railroad rights-of-way, property in agricultural use or zoned for agricultural use and other such features of potentially hazardous nature on, crossing, or contiguous to, the property being subdivided.
- ☐ Letters from all utility companies indicating their review and approval of plat.

A $50.00 multiple re-check fee will be charged for multiple reviews of the same plat.

I certify that I have addressed the items in the preceding checklist. I understand that incomplete plats will be returned without review and a $50 recheck fee will be required.

_____

Authorized Signature

Subdivision Name:_____
Address:_____

WEST VALLEY CITY ENGINEERING
SUBDIVISION PLANS CHECKLIST

Street Plan requirements:

- ☐ 1. Show existing and proposed improvements on opposite and adjacent frontages.
- ☐ 2. Show plan and profile of streets, including sidewalk, curb and gutter.
- ☐ 3. Include TBC and Centerline stations and elevations to be shown at 50' intervals and at all PC, PT, PRC, PVI, BVC and EVC locations on plan view.
- ☐ 4. Include TBC curve data at regular intervals: ie. Δ/2, Δ/3, Δ/4, etc.
- ☐ 5. Vertical curve stations and elevations to be shown at 25' intervals.
- ☐ 6. Pavement section shall be per soils report recommendations or West Valley City standards, whichever is greater.
- ☐ 7. Include storm drain improvements in both plan and profile views. Label size, type, slope and length of each segment (minimum 15" RCP required within public right-of-way).
- ☐ 8. Show all monuments to be installed, include monument to monument bearings and distances.
- ☐ 9. Include north arrow, scale and legend (horizontal scale to be 1"=20').
- ☐ 10. Reference plans to specific APWA standard plans and WVC standards.
- ☐ 11. Submit two sets of project plans (24"x36" sheets required).

Grading and Drainage plan requirements:

- ☐ 12. Show existing and finish grade contours (clearly differentiated) at minimum one foot intervals.
- ☐ 13. Identify County benchmark location and elevation.
- ☐ 14. Indicate lot drainage.
- ☐ 15. Show directional flow arrows for all gravity-flow piping on plans. Label size, type, slope and length of each segment.
- ☐ 16. Include peak runoff generated in each basin, peak flow into each inlet, and cumulative flows in each pipe segment.
- ☐ 17. Label high water contour of detention areas, if required.
- ☐ 18. Show all irrigation and drainage ditches and proposed piping.

Storm Water Construction Permit requirements:

- ☐ 19. Storm Water Pollution Prevention Plan (SWPPP) per the Utah Department of Environmental (DEQ) SWPPP template is required. Construction Period Best Management Practices (BMPs) to include inlet protection, portable toilets, concrete washout, silt fences, sediment and erosion control etc. Include BMP details on plans.
- ☐ 20. Notice of Intent (NOI) for UPDES discharge permit (DEQ, Division of Water Quality).
- ☐ 21. Complete West Valley City Storm Water Construction Permit application.

Street Lighting Plan

- ☐ 22. Lighting Plan per West Valley City Standards to show locations and spacing of required street lights.

External Agency approvals

UDOT access permit required (State roads); Traffic Impact Study for any development which generates 50 or more peak hour trips (contact Erik Brondum, 963-3406 for study requirements); Written approval from water users to pipe or abandon any ditches on property; Salt Lake County Flood Control permit, if applicable.

I certify that I have addressed the items in the preceding checklist. I understand that incomplete plans will be returned without review and a $50 recheck fee will be required.

_____
Authorized Signature

Exhibit 'A'

WEST VALLEY CITY
Engineering

Storm Water Construction Permit Application

Work /Project Information

Project Name :

Project Location :

Cityworks Project No. :

Applicant Information

Permit Holder:	**Contact:**
Address:	**Primary Phone:** **Email:**
Emergency Contact:	**Mobile Phone:**
Parcel No. :	**Evening Phone:**

Contractor Information

Contracting Co:	**Contact:**
Address:	**Primary Phone:**
Emergency Contact:	**Mobile Phone:**
Project Manager:	**Evening Phone:**

Storm Water Construction Permit Requirements and Submittals:

Required	Not Required	
☒	☐	Site Drainage Plan(s) Prepared by a Professional Engineer
☒	☐	Erosion Control Plan prepared by a Professional Engineer
☒	☐	Storm Water Pollution Prevention Plan with Construction Best Management Practices (B.M.P.s)
☒	☐	Proof of State Notice of Intent (N.O.I.) for UPDES Permit (Only for sites over 1 acre).

Comments:

Per approved plans on file with the West Valley City Engineering Division, approved 00/00/00.

THIS IS NOT A PERMIT

I acknowledge that this is an application for a Storm Water Construction Permit. After the proposed application has been reviewed, and the proposal found acceptable by West Valley City Public Works Department a permit may be issued.

Authorized Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Should you have any further questions please call the West Valley City Engineering Division at 963-3318.

WEST VALLEY CITY
Unity Pride Progress

Storm Water Construction Permit

Permit No. SWCP0000

Applicant Information

Permit Holder:	**Contact:**
Address:	**Primary Phone:**
	Email:
Emergency Contact:	**Mobile Phone:**
Parcel No. :	**P.M. Phone:**

Work /Project Information

Project Name :

Project Location :

This permit is subject to:

- Per attached approved project plans on file with West Valley City Engineering Division, approved 0-00-2013
- Per attached Exhibit A: Storm Water Construction Permit application.
- Per attached Exhibit B: Storm Water Pollution Prevention Plan (SWPPP) approved by the West Valley City.

THIS IS A PERMIT

The holder of this permit shall make future owners or tenants on this site aware of this permit and its requirements. Failure to comply with the requirements of the permit is a violation of Title 18 of the West Valley City Municipal Code and will be subject to penalties set forth therein.

Upon reasonable notice to the property owner, the City will have access to the site to inspect, certify compliance with design, maintenance and operating standards of this permit.

Authorized Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Should you have any further questions please call the West Valley City's Division of Engineering at 963-3318.

OFFICE USE	
Date Issued:	
Issued by:	
CityWorks # ZPR 00000000	***PWFILE #***
COPY DISTRIBUTION: PW FILE [ ] OPERATIONS [ ] REVIEW [ ]	

Exhibit 'A'

WEST VALLEY CITY
Engineering

Storm Water Management Permit Application

Work /Project Information

Project Name : _____

Project Location : _____

Cityworks Project No. : _____

Applicant Information

Permit Holder: _____ **Contact:** _____

Address: _____ **Primary Phone:**

Email: _____

Emergency Contact: _____ **Mobile Phone:** _____

Parcel No. : _____ **Evening Phone:** _____

Storm Water Management Permit Requirements and Submittals:

Required	Not Required	
☐	☐	Site Drainage Plan(s) Prepared by a Professional Engineer
☐	☐	Storm Water Management Plan with Commercial and Industrial Best Management Practices (B.M.P.s)
☐	☐	Industrial Storm Water Permit from Utah Department of Environmental Quality.

Comments:

_____

_____

_____

- NOTE: A notice of Storm Water Management Permit may be recorded in the office of the Salt Lake County Recorder.

THIS IS NOT A PERMIT

I acknowledge that this is an application for a Storm Water Management Permit. After the proposed application has been reviewed, and the proposal found acceptable by West Valley City Public Works Department a permit may be issued.

Authorized Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Should you have any further questions please call the West Valley City Engineering Division at 963-3318.

WEST VALLEY CITY
Unity Pride Progress

Storm Water Management Permit

Permit No. SWMP0401

Applicant Information

Permit Holder:	**Contact:**
Address:	**Primary Phone:**
	Email:
Emergency Contact:	**Mobile Phone:**
Parcel No. :	**P.M. Phone:**

Work /Project Information

Project Name :

Project Location :

This permit is subject to:

- Per approved project plans on file with West Valley City Division of Engineering, approved on _____.
- Per attached Exhibit A: Storm Water Management Permit Application
- Per attached Exhibit B: Storm Water Management Plan

THIS IS A PERMIT

The holder of this permit shall make future owners or tenants on this site aware of this permit and its requirements. Failure to comply with the requirements of the permit is a violation of Title 18 of the West Valley City Municipal Code and will be subject to penalties set forth therein.

Upon reasonable notice to the property owner, the City will have access to the site to inspect, certify compliance with design, maintenance and operating standards of this permit.

Authorized Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Should you have any further questions please call the West Valley City's Division of Engineering at 963-3318.

OFFICE USE	
Date Issued:	
Issued by:	
Cityworks #	***PWFILE #***

Subdivision Name:_____ **WEST VALLEY CITY ENGINEERING**
Address:_____ **STORM WATER QUALITY CHECKLIST**

Storm Water Treatment:

- ☐ 1. Identify post construction storm water treatment methods, and locations of treatment, for the 2-yr, 15-min storm event (0.26 inches or 1.04 inches/hr). Possible methods include: sediment traps, oil water separators, bio-swales, infiltration basins or chambers, and dry wells. Other post-construction storm water management BMPs can be found on the EPA's webpage.
- ☐ 2. Provide an oil/water separator and a drop inlet sediment trap upstream of any connection to WVC storm drain system. Additional sediment traps should also be considered in strategic locations throughout the development.
- ☐ 3. Provide Technical Submittals for proposed oil/water separators and other long term storm water treatment BMPs to ensure the BMPs are sufficiently sized for the treatment of storm water flows.
- ☐ 4. Low Impact Development (LID) is encouraged in land development. Where feasible treat storm water on site, and mimic pre-development hydrology.

Additional Site Specific Requirements:

- ☐ 5. **Single Family Residential** - Identify possible site specific sources of storm water contamination. Include treatment methods for sediments, oils, and organics in design documents.
- ☐ 6. **Multi-Family Residential** - Identify possible site specific sources of storm water contamination. Include treatment methods for sediments, oils, and organics in design documents. Specifically address treatment measures for parking areas and landscaping maintenance/housekeeping procedures.
- ☐ 7. **Commercial/Industrial** - Identify possible site specific sources of storm water contamination. Include treatment methods for sediments, and oils in design documents. Specifically address treatment measures for parking areas.
- ☐ 8. A Storm Water Management Plan is required for Commercial, Industrial, and Multifamily developments (See SWMP Outline).
- ☐ 9. Identify post-construction housekeeping measures, and management of organic matter for sites that drain to the Jordan River (Jordan, Decker, Taylorsville, and Redwood Drainage Districts). In the Storm Water Management Plan specifically address good housekeeping procedures (for grass clippings, leaves, etc.), proper fertilizing procedures, and other treatments for organic matter.
- ☐ 10. Where feasible, locate grease trap cleanouts in contained landscaped areas away from storm drain inlets.

WEST VALLEY CITY EVALUATION FORM
FOR
POST CONSTRUCTION CONTROLS

Site Name:	Inspection Date:	WVC Permit #
Project Location:		

Facility Contact Information

	NAMES	PHONE #'S	E-MAIL
OWNER:			
SITE CONTACT:			

BUSINESS TYPE: INSTITUTION ☐ COMMERCIAL ☐ INDUSTRIAL ☐

Snout Required for site YES ☐ NO ☐

Orifice Required for site YES ☐ NO ☐ Orifice Size:

Items Inspected	Checked		Maintenance		Inspector	Observations and Remarks
	Yes	No	Req'd	Not Req'd		
1.Dumping Evidence						
2.Spill Evidence						
3.Other Pollution Sources						
Sanitary Sewer Grease Trap						
Barrels or Drums						
4.General Maintenance Status						
Inlets						
Conveyance Systems						
Manholes						
Structural Devices						
Stormwater Storage						
Parking/Impervious Area						
Waste Collection						
Landscaping						
Vegetation/Soils						
Snout						
Oil/Water Separator						
Inlet/Outlet Channels						
Inlet/Outlet Structures						
Catch Basins						
Spillways						
Weirs						
Site Pass						

Notes:

Inspector: Site Contact:

Signature	Title	Signature	Date

APPENDIX F

Pollution Prevention and Good Housekeeping for Municipal Operations

List of City-Owned Facilities A48
Parks and Recreation Department Storm Water Management Plan A50
Parks and Recreation Department SWPPP A87
List of Pet Waste Signs A89
Vehicle Washing Policies A90
Deicing Practices A91
Sanitation Division Spill Form A92
Taginator and Tagaway MSDS Sheets for Graffiti Removal A93
High Priority Storm Drain Grates A96
Public Works Shop Building Weekly Walk Through Checklist A98
Golf Course Maintenance Weekly Walk Through Checklist A99
Quarterly Comprehensive High Priority Inspection Form A100
Structural Control Assessment Form A102
Parks and Recreation SWPPP New Employee Training Checklist A103
Parks and Recreation SWPPP Third-Party Training Checklist A104
Parks and Recreation SWPPP Training Acknowledgement Form A105

City Owned or Operated Facilities

City Buildings

- City Hall – 3600 S. Constitution Blvd.
- Fire Stations
  - Station 71 – 4160 South 6400 West
  - Station 72 – 4100 South 4314 West
  - Station 73 – 2834 South 2700 West (including training facility)
  - Station 74 – 5545 West 3100 South
  - Station 75 – 3660 South 1950 West
- Public Safety/Justice Court Building – 3575 S. Market St.
- Harman Home – 4090 South 3600 West
- Utah Cultural Celebration Center – 1355 West 3100 South
- Family Fitness Center – 5415 West 3100 South
- Animal Shelter – 4522 West 3500 South
- Public Works/Fleet Buildings – 2855 South 3600 West
- Public Safety Storage Yard – 5900 West 5400 South
- USANA Amphitheatre Parking Lots – 5150 South 6055 West
- Redevelopment Area for Fairbourne Station – 3500 South & Market Street

City Owned Buildings Operated by Others

- The Maverik Center – 3200 S. Decker Lake Dr.
- Hale Centre Theatre – 3333 S. Decker Lake Dr.
- Acord Ice Center – 5353 West 3100 South

Golf Courses

- Stonebridge – 4415 Links Dr.
- West Ridge – 5055 S. Westridge Blvd.

City Parks

- Back Nine Park
  4105 West 3010 South
- Bridle Farms Park
  6690 W. Hunter View Dr.
- Centennial Park
  5405 West 3100 South
- City Park
  4500 West 3500 South
- Country Meadows Park
  4175 West 3980 South
- Fairbourne Station Promenade Park
  2905 W Lehman Ave.
- Falcon Crest Park
  4055 South 7060 West
- Fassio Farm Park
  3720 South 5200 West
- Fox Tail Park
  6880 W. Terrace Ridge Dr. (3045 South)
- Hunter Ridge Park
  4383 South 5710 West
- Hunter Village Park
  6985 W. Hunter Valley Dr. (3215 South)
- Hunter Village Trailhead Park
  3410 S. Hunter View Dr.
- Ironwood Park
  4565 South Early Duke St. (5080 West)
- Kings Pointe Park
  1330 West Rothchild Dr. (3665 South)
- Maple Meadows Park
  2520 West 3380 South
- Meadow Lands Park
  3350 South 5800 West
- Parkway Park
  3405 West Parkway Blvd. (2700 South)
- Peachwood Park
  3510 West 3965 South

- Scottsdale Park
  3755 West 3100 South
- Sugar Plum Park
  3755 West 2900 South
- Terrace Ridge Park
  6260 W. Terrace Ridge Dr. (4365 South)
- Trailblazer Park
  3164 S. Trailblazer Cove (6675 South)
- Trax Plaza
  2753 West 3600 West
- West View Park
  6050 West 4100 South
- Wheatland Park
  4266 South 3680 West
- Willow Wood Park
  3730 South 3375 West
- Woodledge Park
  5210 West 4310 South

Trails Maintained by West Valley City

- Hunter Village I Trail – 6750 West 3500 South
- Hunter Village II Trail – 3410 S. Hunter View Dr.
- Hunter Village IV Trail – 6830 West 3100 South
- Sugar Plum Farms I Trail – 7200 West 2940 South
- Sugar Plum Village II Trail – 3755 West 2900 South

Other Open Spaces

- 6200 South Streetscape – 5881 West – 6441 West
- 2700 West 4100 South Intersection
- 3900 South Entrance Sign Area – 1176 West 3900 South
- 2200 South and Bangerter Entrance Sign
- Interstate 215 and 3500 South Exit – Northeast Quadrant
- 3500 South 2200 West Streetscape
- Hunter Village Phase 18 Frontage – 2700 S. Hunter Crest Dr.
- SR-201 and Redwood Road Interchange
- SR-201 and Bangerter Highway Interchange
- City Center Court Islands

Storm Water Controls

- Beaver Pond – 1200 West 3300 South
- Granger Elementary Basin – 2200 West 3700 South
- Holden Basin – 5120 West 4100 South
- Hunter Village Basin – 6950 West 2700 South
- Meadowland Basin – 5990 West 3000 South
- Metro Pond – 1400 West 2200 South
- Vistas Basin – 6000 West 4400 South

West Valley City
Parks and Recreation Department
Parks and Golf Courses
Maintenance

Objective: On site management of potential pollutants as they relate to storm water contamination.

Table of Contents:

Section 1: Storm water protection plan
Section 2: Lists of parks and golf courses and maps
Section 3: Standard Operating Procedures
Section 4: Description and frequency of tasks
Section 5: Spill prevention plan and clean up procedures
Section 6: Forms used for reporting and logging incidents

Section 1:

Storm water protection plan

Parks and Recreation
Golf Courses, Parks, and Fitness Center
Storm Water Management Plan (2012)

Objective: On site management of potential pollutants as they relate to storm water contamination.

Items of Concern:

1. Parking Lots
2. Maintenance Facility Parking Lots
3. Fertilizer and Pesticide Management
4. Disposal Food and Beverage Oils
5. Disposal of Engine Oils
6. Management of Grass clippings, Sand, and other Large Particulates.
7. Gasoline and Diesel
8. Waste Disposal
9. Training and Records

1) Parking Lots: Storm Water is collected in boxes throughout the Parking Areas. These are cleaned on a regular basis and or included a fabric cover to collect clippings and Parking lot residue.

2) Maintenance Facility Parking Lots: The Storm Water collected in these lots is in the same collection system as the Parking Lots. However, these lots are swept due to the amount of material in the lots associated with grounds maintenance. Fabric covers maybe employed in these areas.

3) Fertilizer and Pesticide Management: All Fertilizer and Pesticides used on the Golf Courses and Parks are stored in the Maintenance Facilities designated fertilizer and chemical storage room/area. Spill containment pallets are used for the following items: Granular and Liquid Fertilizers, Herbicides (selective and non-selective), Granular and Liquid Fungicides, all Paints (excluding Aerosols). Liquid spills are cleaned with sawdust and/or spill absorbents. Granular spills are collected and used on the golf course for turf grass nutritional purposes.

4) Disposal of Food and Beverage Oils: Used oils are contained in 55 Gallon Drums on spill containments pallets and collected by Emerald Recycling Company on an as-needed basis.

5) Disposal on Engine Oil: Used oil is collected in the Maintenance Facilities in 55 gallon drums which are recycled by Emerald Recycling Company on an as-needed basis. Spills are cleaned with sawdust and oil absorbent materials.

6) Management of Grass Clipping, Sand and other Large Particulates: The wash areas for all Maintenance Equipment are designed containment areas, channeling all wash water and other materials into a holding tank or onto turf. West Valley City Public Works Dept. will empty tank on a regular schedule, estimated at bi weekly.

7) Chlorine & Acid Storage Tanks:

A. The Fitness Center stores chlorine and acid used in the pools. Tanks are located outside in a ventilated and locked self-containment area. Spills are cleaned up by hazardous chemical cleanup companies.

8) Gasoline and Diesel: Spill containment is managed in two ways.

A. Golf Course Fuel tanks are of the Convolute type. This is a fuel tank within a containment tank. Containment 100%.
B. The redundant system is a fuel area containing the tanks. A concrete curb wall surrounds the fueling area; containment is a second 100%. For spills outside of the fueling area a drum of absorbent is kept and maintained at the fueling center at all times.
C. Gas and Diesel Cans are kept in self-closing cans in Flammable Containment Cabinets. Spill kits are located nearby.

9) Waste Disposal: Solid waste disposal is contracted with Waste Management. Used oil disposal is recycled with Emerald Recycling Company. Clippings from mowers are primarily not collected on the golf course or in Parks. Collected clippings are recycled for mulch around trees and other woody plants.

10) Employee Training and Records: Monthly safety/operational meetings are held with the maintenance staff. These meetings concern aspects of safety, water management, customer relations, materials handling, and other BMP's concerning the golf course maintenance operations. Attendance and subjects are recorded in the golf course SWPPP and inspected by storm water inspectors on a quarterly basis. The Public Works dept. conducts these inspections.
Weekly observations/inspections of areas are conducted and recorded. These forms are part of the SWPPP on-site.

West Valley City
Parks and Recreation
Family Fitness Center
Storm Water Management Plan (2012)

Objective: On site management of potential pollutants as they relate to storm water contamination.

Items of Concern:

1. Storm drains in roadway in the front of building.
2. 50 gallon storage tank of diesel on emergency generator.
3. Chlorine & acid storage tanks.
4. Diesel and gas storage (44H x 43W x 18D metal cabinet)
5. Gas powered utility carts.
6. Waste disposal
7. Training and records.

1) **Storm drains in front entry.** This would only come into effect when power washing front entry and sidewalk with cleaning chemicals. Use of absorbent socks placed around drains to prevent contamination of storm water drain.
2) **50 gallon storage tank.** This would only apply when filling tank from 5 gallon cans. A cleanup kit will be placed in area of the generator for this purpose and used in the case of a spill.
3) **Chlorine & acid storage tanks.** These are in self containment storage areas and would contain any spill. Any spill would then be cleaned up by a hazardous chemical cleanup company.
4) **Diesel and Gas storage.** Fuels are kept in storage areas of facility with cleanup kits stored nearby for containment. The storage metal cabinet is 44H x 43W x 18D.
5) **Gas Powered utility carts and snow blowers.** Kits are provided for each vehicle, utility carts and snow blowers for containment of any spill.
6) **Waste disposal.** Solid waste disposal is contracted with Waste Management Co.
7) **Training and records.** Risk management and staff meetings are held on a quarterly basis where those who would be involved with spill containment would be taught or go over procedures for containment.

Contact List

West Valley City Parks Department
2855 S. 3600 W.
West Valley City, Utah 84119
Parks Superintendent
Jason Erickson 801 509-1931

Westridge Golf Course
5055 W. Westridge Blvd.
West Valley City, Utah 84118
Senior Golf Course Superintendent
John Brubaker 801 509-1964

Stonebridge Golf Course
4415 Links Dr.
West Valley City, Utah 84120
Golf Course Superintendent
Matt Isbell 801 509-1961

Family Fitness Center
5515 West 3100 South
West Valley City, Utah 84120
Center Director
Nancy Day 801-955-4009

Section 2:

Lists of parks and golf courses and maps

Stonebridge Golf Course

4415 W. Links Drive
West Valley City, Utah 84120

Stonebridge is a 27 hole golf course. It sits on approximately 250 acres but has 156 acres of maintained turf and landscape beds. The excess area is lakes, canals and riparian areas.

- Stonebridge has 12,000 sq. ft clubhouse. This includes a proshop, café, full size kitchen, large banquet area, offices, and men's and ladies restrooms including locker rooms and golf cart storage area.
- Stonebridge Maintenance Building is located across Links Dr from Clubhouse. It is a 5000 sq. foot building that has 2 offices, break room, 2 restrooms, shower room, storage area, grinding room and pesticide storage room.
- Pumphouse #1 sits in clubhouse parking lot, this pumphouse generates water that goes in to canal system.
- Pumphouse #2 is across Lake Park Lake south east of the clubhouse. This pumphouse is for irrigating the golf course.
- 3 small restrooms on golf course

Westridge Golf Course

5055 W. Westridge Blvd.
West Valley City, Utah 84118

Westridge is a 18 hole golf course. It is currently being completely rebuilt The new golf course will be approximately 200 acres with 120 acres of maintained turf the remaining acreage will be lakes, streams, and native grass areas. The current clubhouse is the only structure that will not be rebuilt. New buildings will not be including in this list, they will be added when they are built.

- Westridge Clubhouse is approximately 12,000 sq. feet. This includes a proshop, café, full size kitchen, large banquet area, offices, and mens and ladies restrooms and golf cart storage area.

List of Floor Drains
Stonebridge Maintenance Building
All floor drains go to sewer system

1. Ladies Restroom
2. Shower Room
3. Mens restroom
4. Main Shop South side in middle
5. Main Shop North side in middle

Restrooms located on golf course

1. Southwest restrooms have a floor drain in all three rooms.
2. South central restrooms have a floor drain all rooms.
3. Southeast restrooms have a floor drain in all three rooms

Stonebridge Storm Drains

1. 2 storm drains Maintenance/parking lot over flow
2. 1 Southeast corner
3. 1 Southwest corner
4. 1 Northeast corner
5. 1 North West corner
6. 1 West side middle
7. 1 East side middle

STONEBRIDGE GOLF COURSE

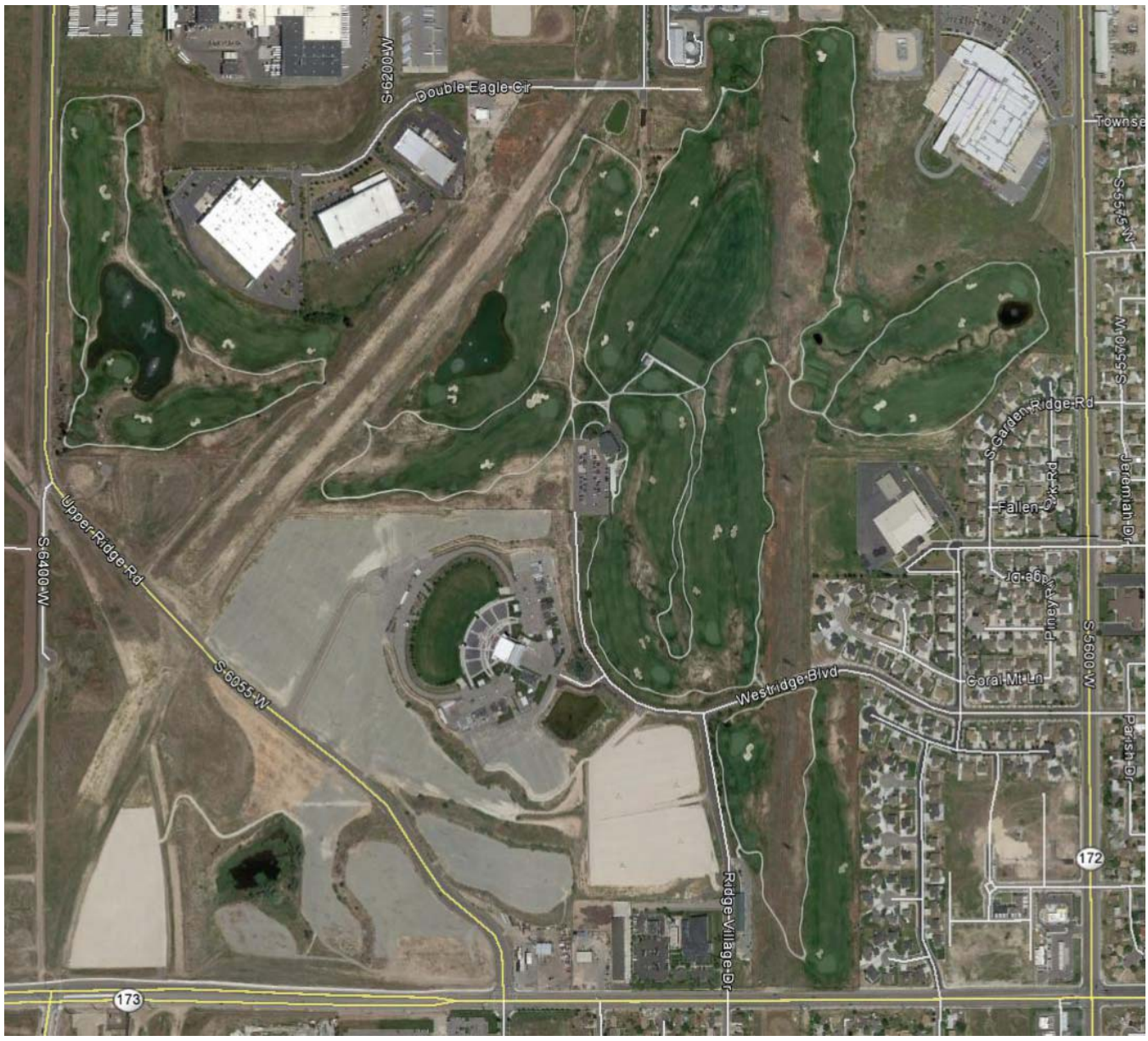
Stonebridge Golf Club

Legend

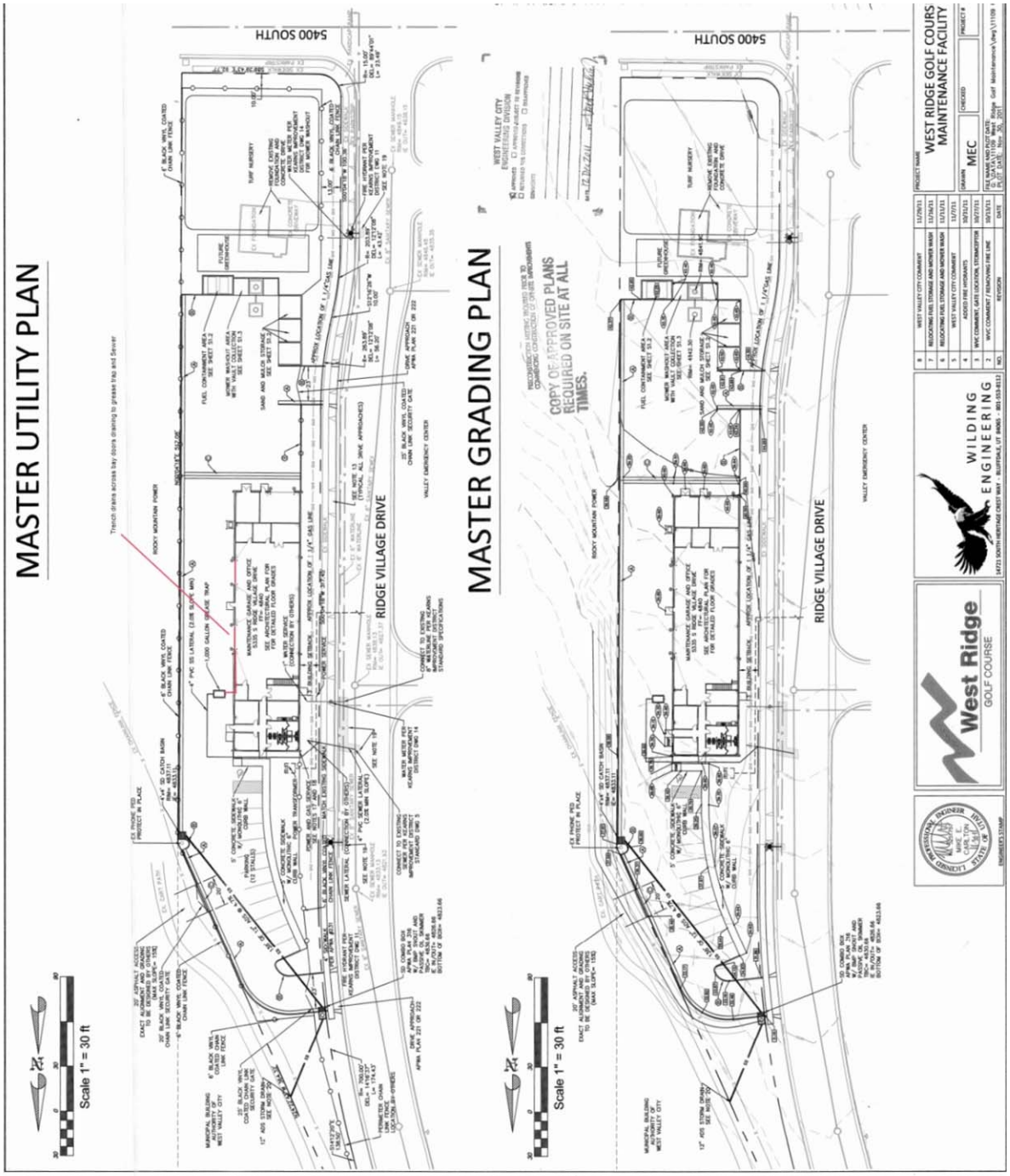
1. Maintenance Building
2. Pumphouse #1
3. Pumphouse #2
4. Southeast restroom
5. Central restroom
6. Southwest restroom

STONEBRIDGE MAINTENANCE BUILDING

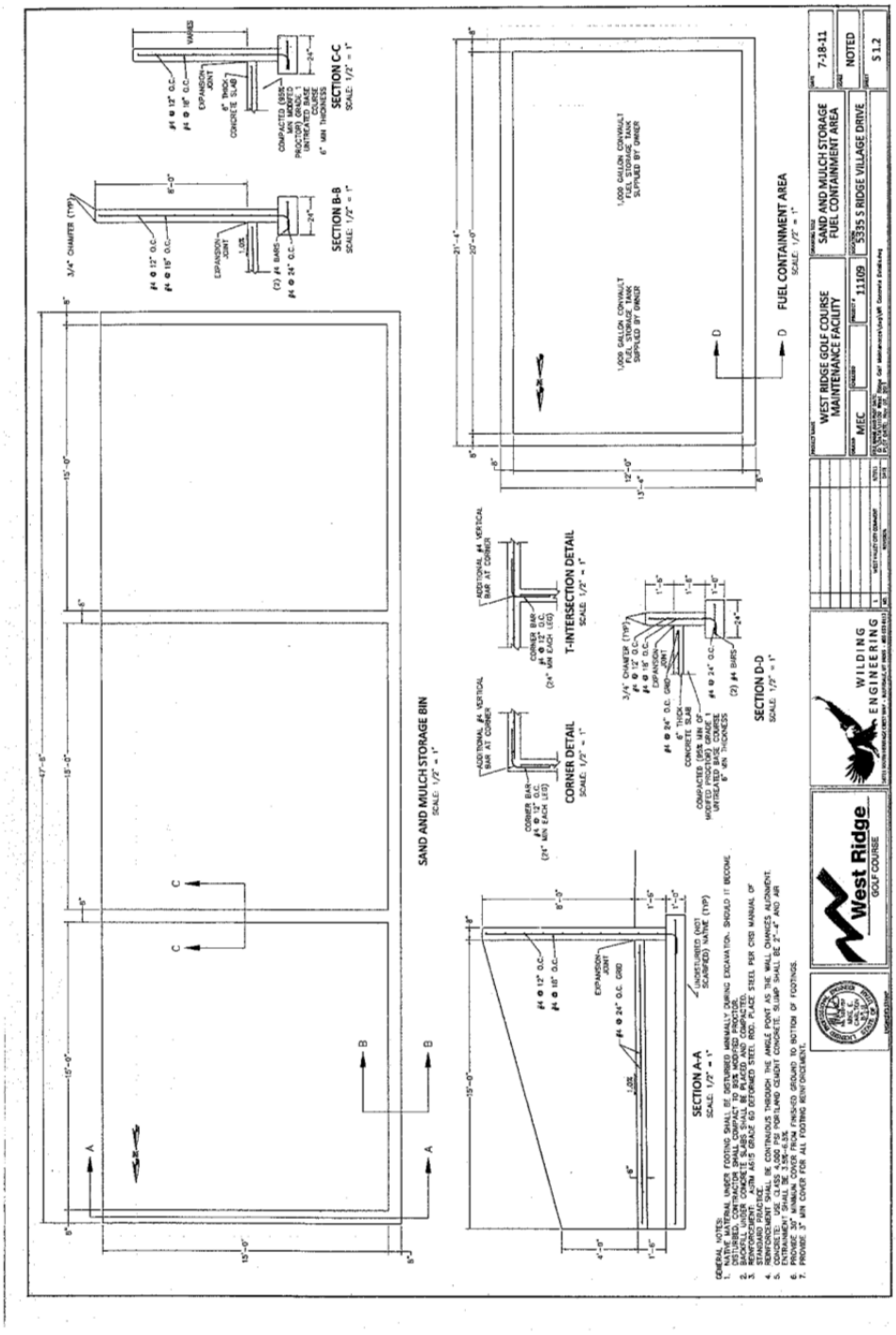
THE RIDGE GOLF COURSE



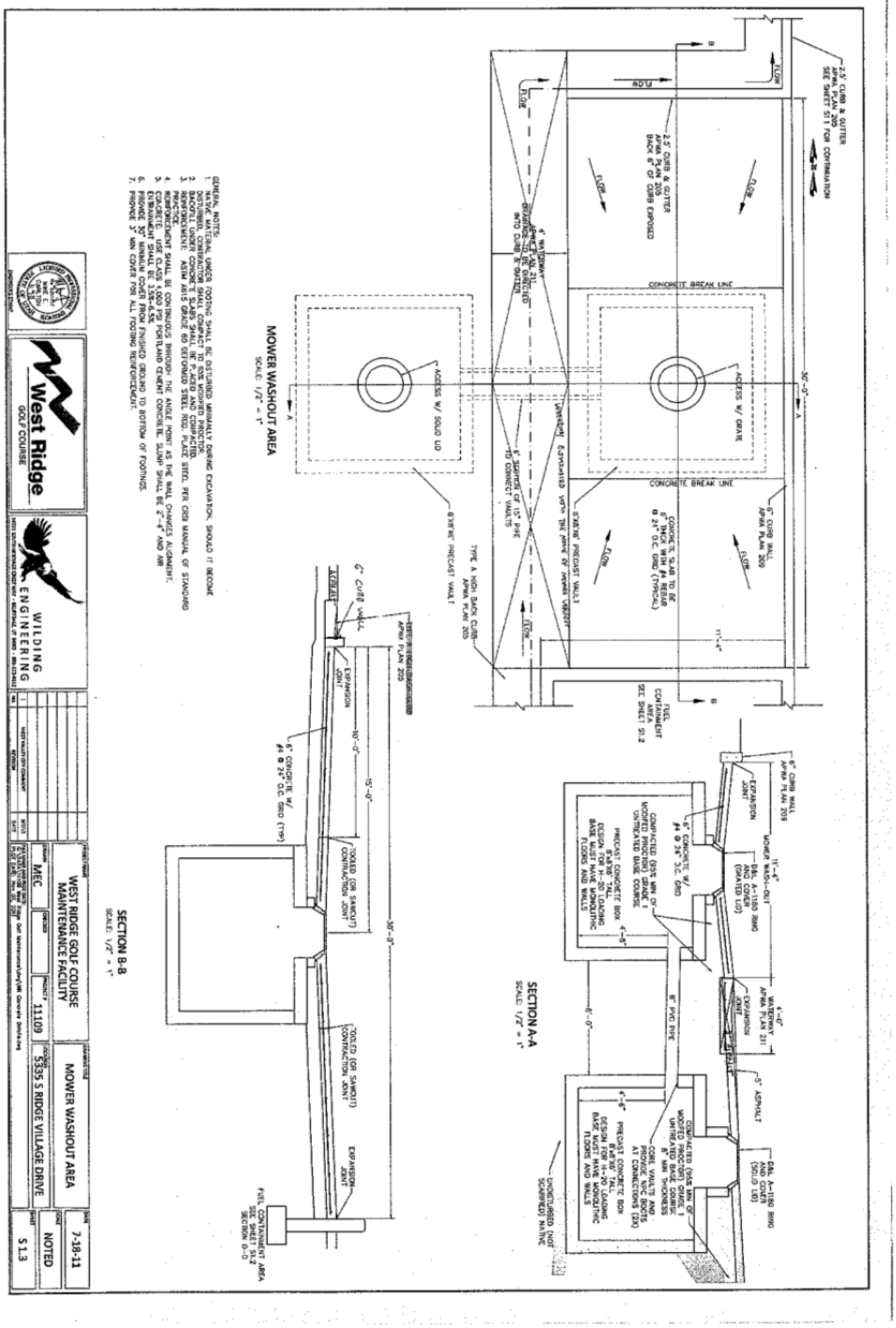
THE RIDGE MAINTENANCE BUILDING PLAN

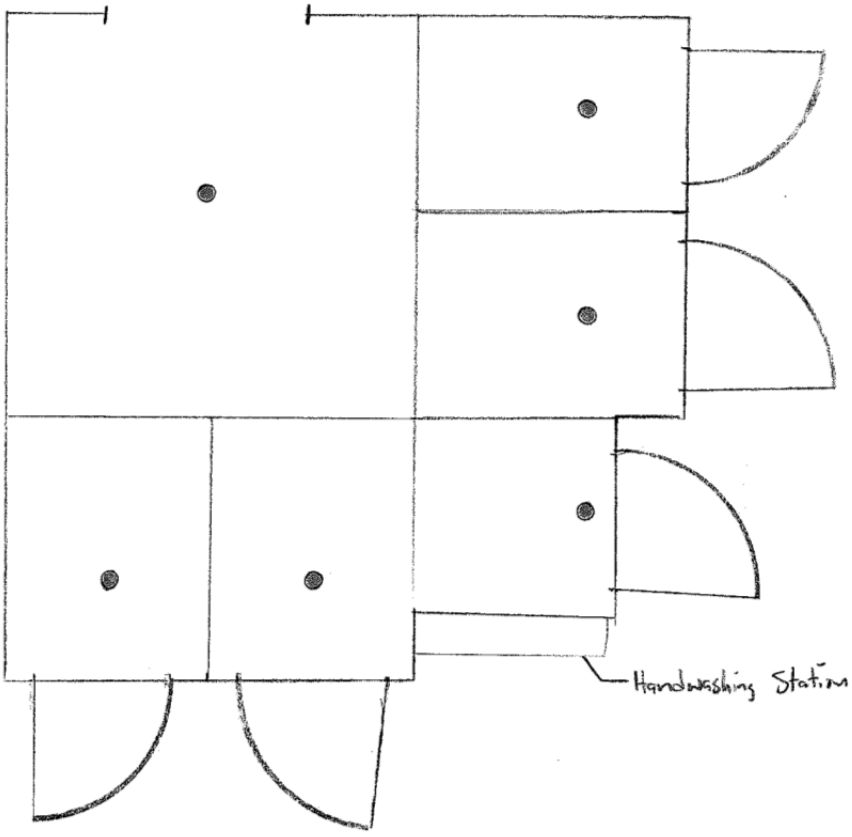


THE RIDGE MAINTENANCE BUILDING PLAN



THE RIDGE MAINTENANCE BUILDING PLAN

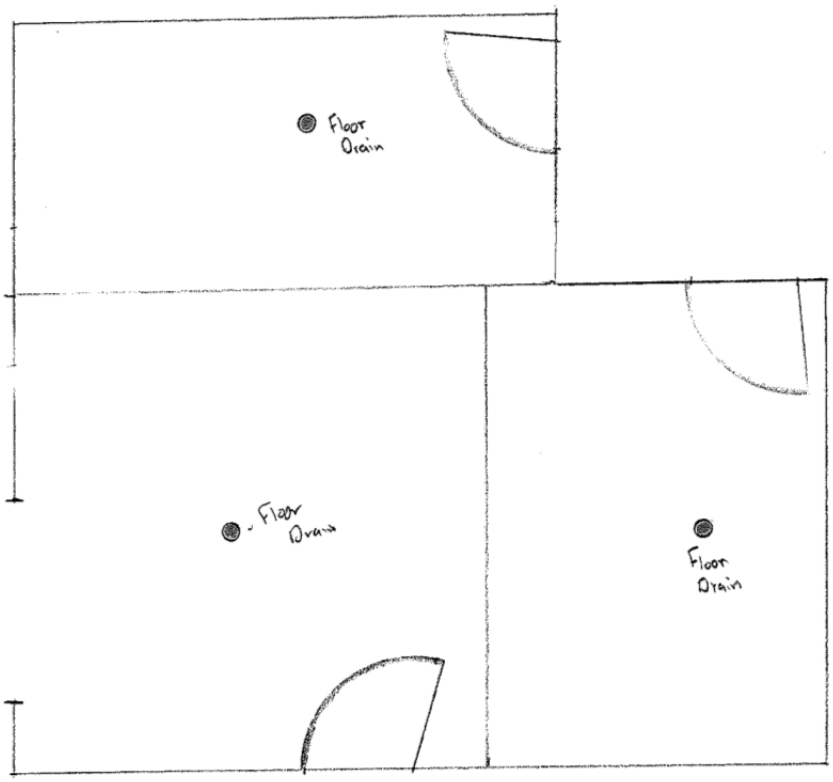




Parkway Park Restroom

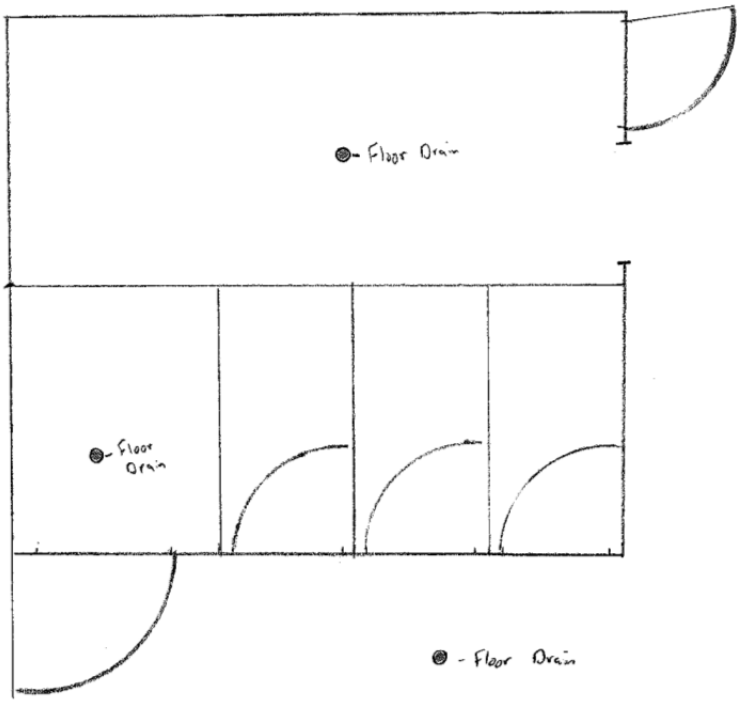
● - Floor Drain

NOTE: Floor Drains connected to sanitary sewer.



City Park Restroom Bldg

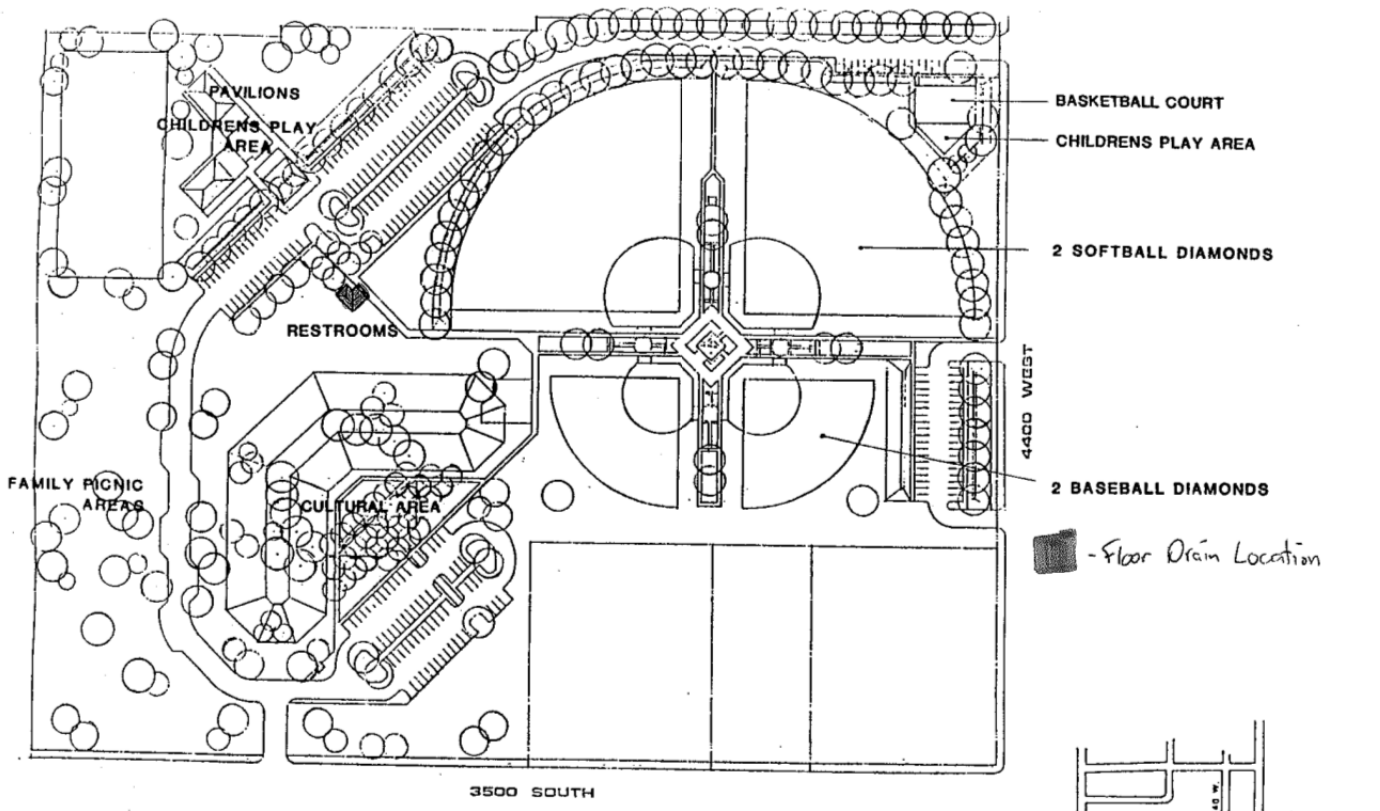
NOTE: Floor Drains connected to sanitary sewer.



West View Park Restroom Bldg

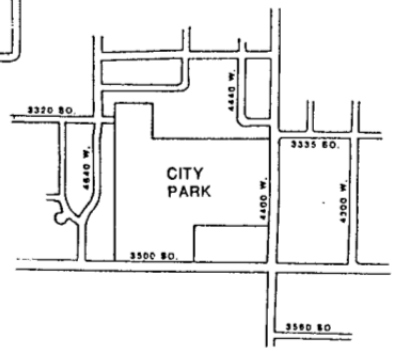
NOTE: Floor Drains connected to sanitary sewer.

NOTE: Floor Drains connected to sanitary sewer.



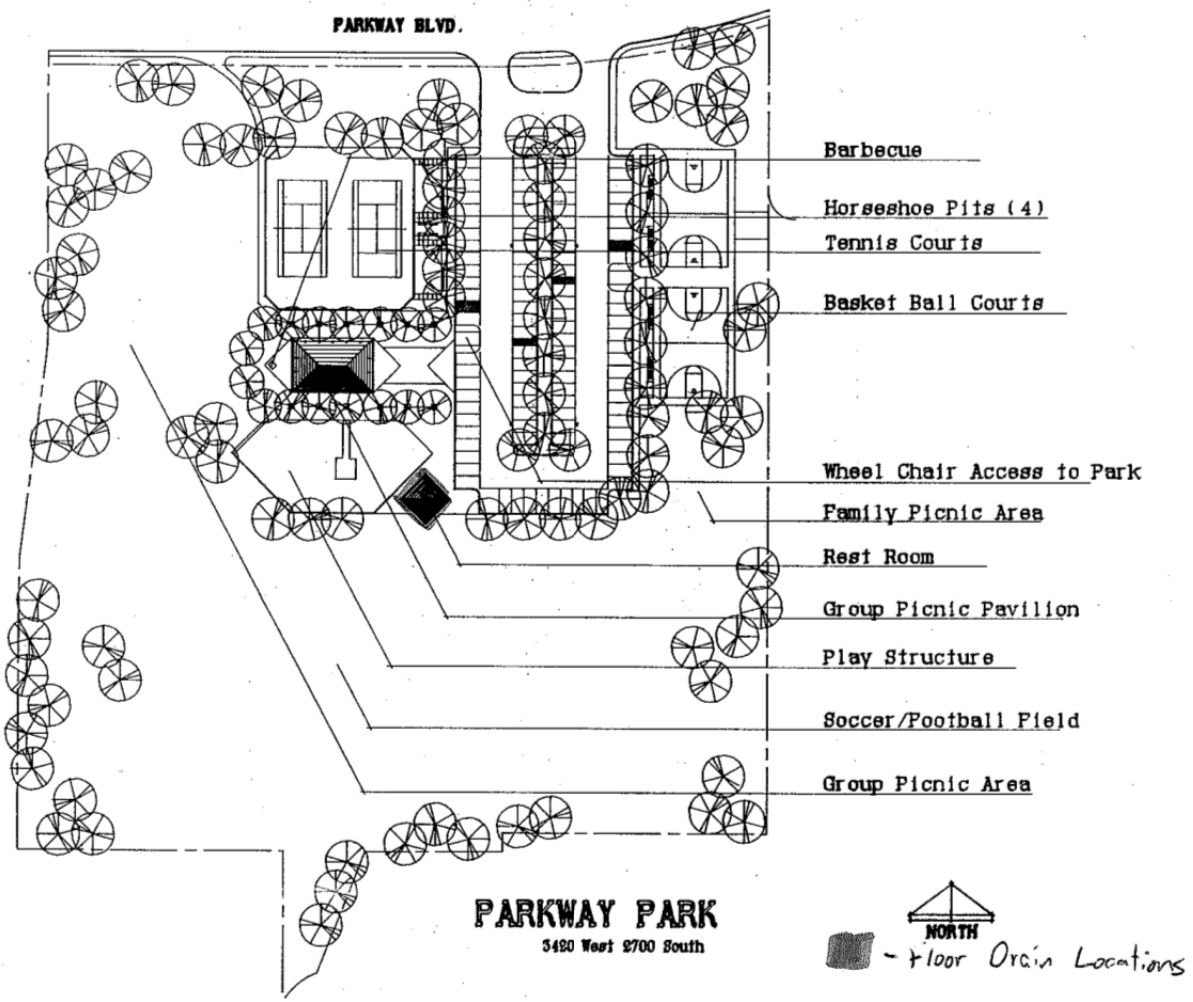
CITY PARK

3500 SOUTH 4505 WEST
WEST VALLEY CITY, UTAH

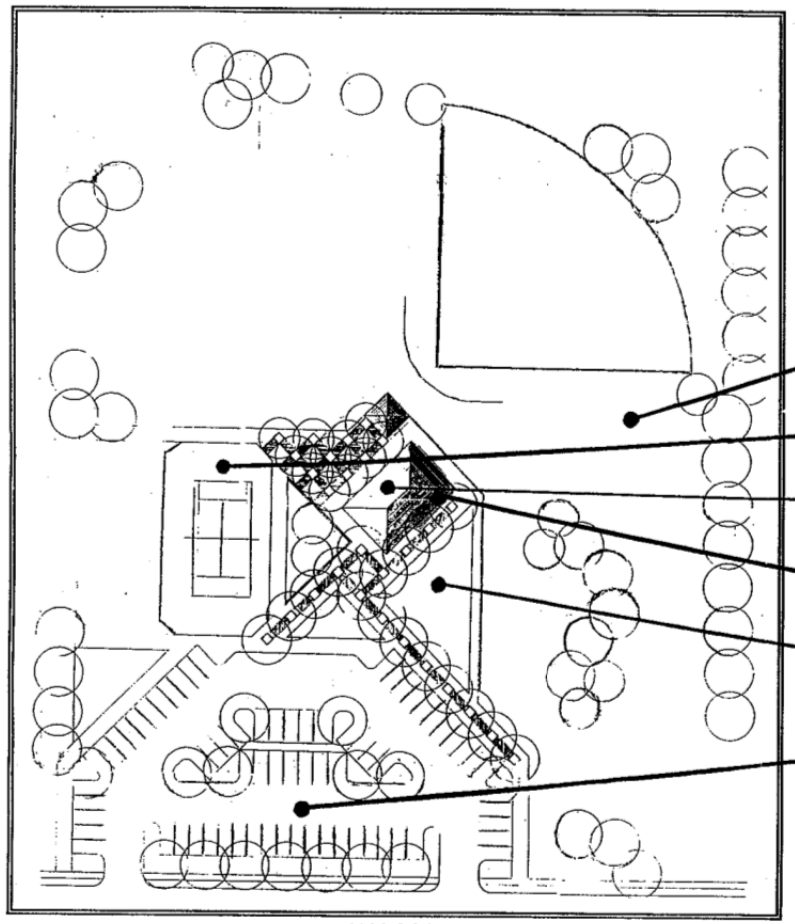


LOCATION MAP

NOTE: Floor Drains connected to sanitary sewer.



NOTE: Floor Drains connected to sanitary sewer.

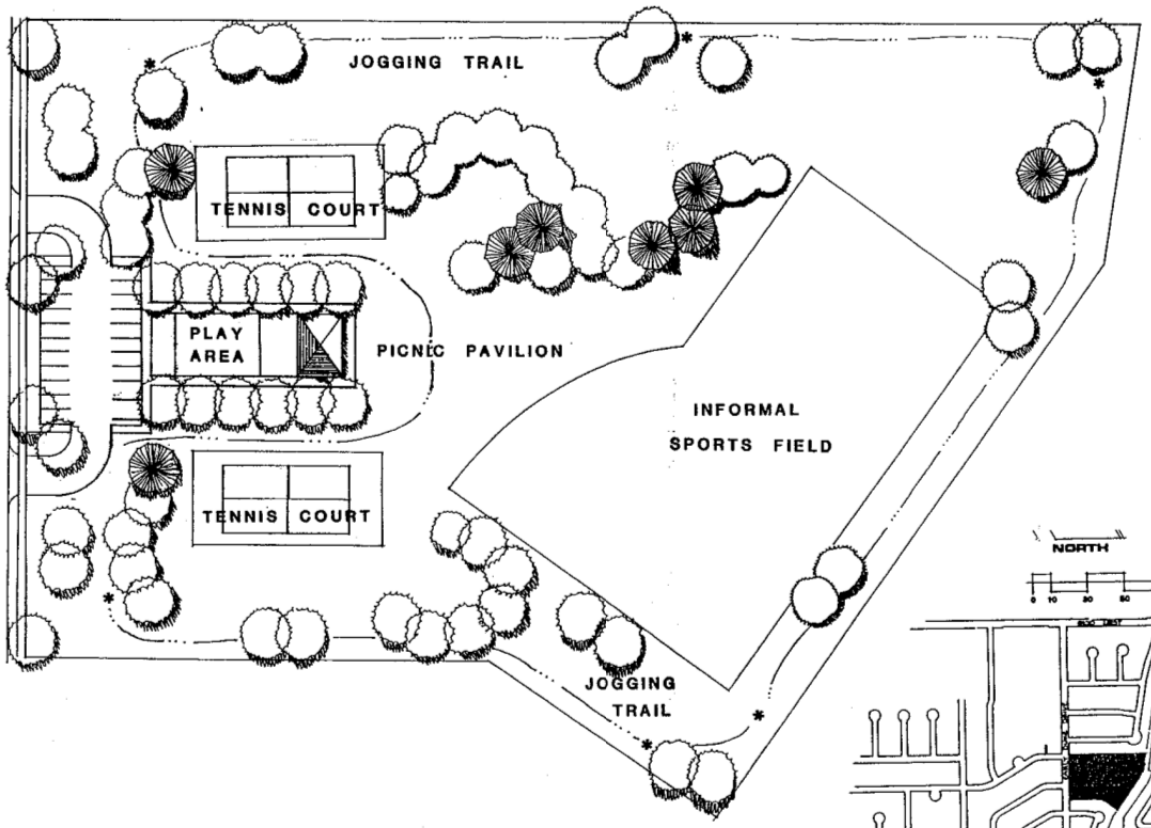


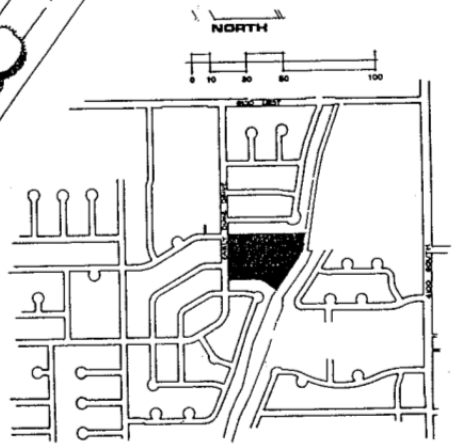
WEST VIEW PARK

6050 WEST 4100 SOUTH
WEST VALLEY CITY, UTAH

NORTH

NOTE: Floor Drains connected to sanitary sewer.





WOODLEDGE PARK

5220 WEST EARLY DUKE DRIVE

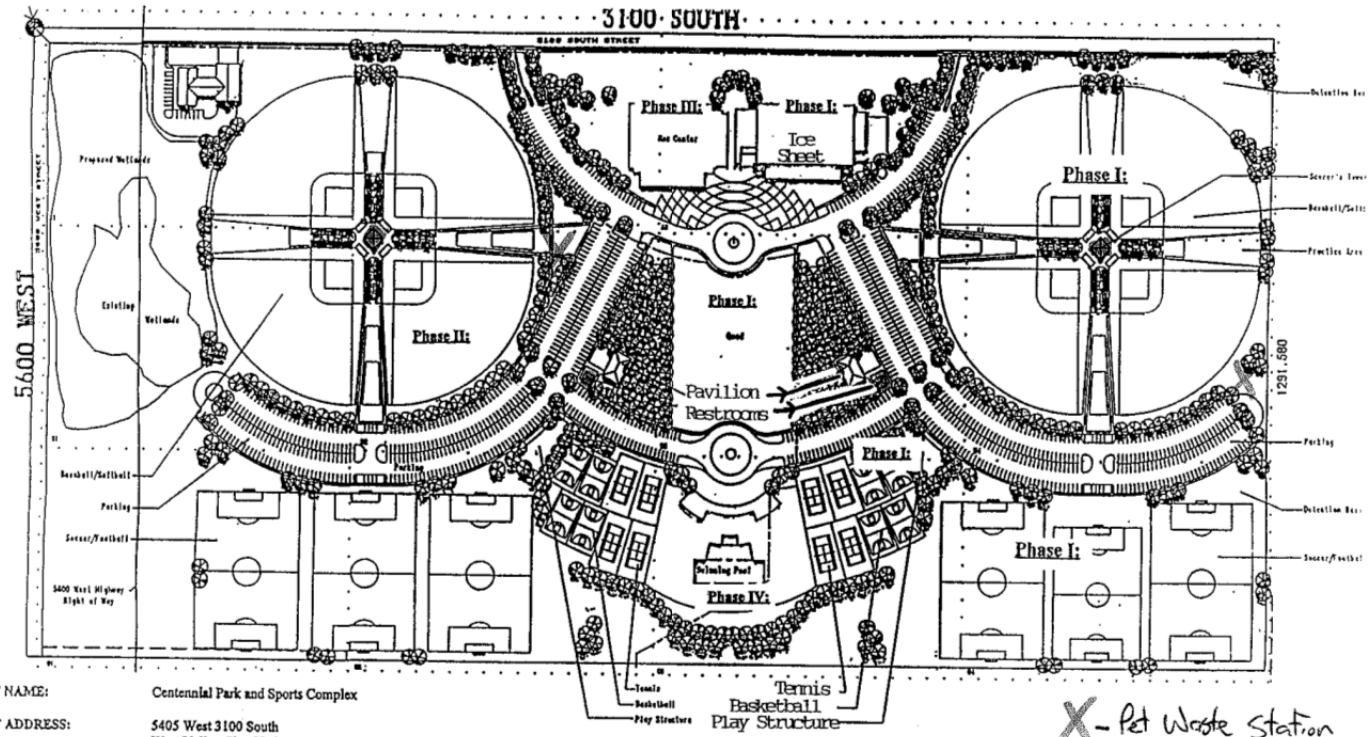
WEST VALLEY UTAH.

NOTE: Floor Drains connected to sanitary sewer.

OR OUR CITIZENS.....

YOUR.....

WEST VALLEY CITY CENTENNIAL PARK AND SPORTS COMPLEX



JECT NAME: Centennial Park and Sports Complex

JECT ADDRESS: 5405 West 3100 South
West Valley City, Utah

JARE FEET/ACREAGE: 77 acres total; Phase I - 39 acres

ILITIES:

Phase I:

Ice sheet (Olympic size)
Three (3) regulation soccer fields
One (1) 4-plex softball diamond
Four (4) outdoor basketball courts
Four (4) tennis courts
800 stall parking lot
One (1) score tower for ball diamonds
One (1) 40X60 picnic pavilion
Two (2) restrooms
One (1) children's play area with play structure
Site furnishings, lawn, trees

Phase II:

Three (3) regulation soccer fields
One (1) 4-plex baseball diamond
Four (4) tennis courts
Four (4) basketball courts
600 stall parking area
One 1) children's play area with play structure
One (1) 40X60 picnic pavilion
Two (2) restrooms
Site furnishings, lawn, trees

Phase III:

Recreation Center

Phase IV:

Swimming Pool

ARCHITECTS: Valentiner, Crane, Brunjes, Onyon Architects, P.C.
Gregory F. Cudworth, ASLA

COMPLETION DATE: Phase I - November 1996

X - Pet Waste Station

- Floor Drain Locations

WEST VALLEY CITY
PARKS AND RECREATION

Floor Drains in Parks Facilities (Connected to sanitary sewer system)

Centennial Park
- West Quad
  - One in storage room
  - Three in snack bar
  - One in each restroom stall
- West Pavilion
  - One in each storage room
  - One in handicapped restroom
  - Channel drain in front of each restroom stall
- East Pavilion
  - Channel drain in front of each restroom stall
- East Softball Quad
  - One in storage room
  - Three in snack bar
  - One in each restroom stall

City Park
- One in men's restroom
- One in women's restroom
- One in storage room

Parkway Park
- One in each restroom stall
- One in storage room

West View Park
- One in handicapped restroom
- One under hand washing station
- One in storage room

Floor Drains in Parks Facilities

Centennial Park
- West Quad
  - One in storage room
  - Three in snack bar
  - One in each restroom stall
- West Pavilion
  - One in each storage room
  - One in handicapped restroom
  - Channel drain in front of each restroom stall
- East Pavilion
  - Channel drain in front of each restroom stall
- East Softball Quad
  - One in storage room
  - Three in snack bar
  - One in each restroom stall

City Park
- One in men's restroom
- One in women's restroom
- One in storage room

Parkway Park
- One in each restroom stall
- One in storage room

West View Park
- One in handicapped restroom
- One under hand washing station
- One in storage room

Floor Drains in Family Fitness Center

Men's restroom main floor lobby
1-floor drain (to sewer)

Women's restroom main floor lobby
1-floor drain (to sewer)

Maintenance storage area
1-floor drain (to sewer)
1-janitor's slop sink (to sewer)

Child care area
2-restrooms 1-floor drain each (to sewer)
1-storage room 1-floor drain (to sewer)

Edutainment area
2-restrooms 1-floor drain each (to sewer)
1-storage room 1-janitor's floor sink (to sewer)

Concession's area
4-floor drains (to sewer)
1-janitor's sink (to sewer)

Party room
1-floor drain (to sewer)

Men's locker room
Toilet area gym hallway 1-drain (to sewer)
Locker area 2-drains (to sewer)
Shower area 10-drains (to sewer)
Toilet area pool side 2-drains (to sewer)
Janitor closet 1-slop drain (to sewer)

Women's locker room
Toilet area gym hallway 1-drain (to sewer)
Locker area 2-drains (to sewer)
Shower area 10-drains (to sewer)
Toilet area pool side 2-drains (to sewer)
Janitor closet 1-slop drain (to sewer)

Lifeguard room
1-floor drain (to sewer)

First aid room
1-floor drain (to sewer)

Mechanical room

8-floor drains (to sewer)

Pool equipment room

6-floor drains (to sewer)

Swimming pool area

Floor drains surround entire pools (to sewer)

Section 3:

Standard Operating Procedures

(See the Standard Operating Procedures Appendix of the SWMP)

Section 4:

Description and frequency of tasks

Description of Task	
Equipment maintenance	Daily
Irrigation Maintenance	Daily
Mowing	
Greens, Mowing	Daily
Greens, Verticut	Bi-weekly
Greens, Topdress	Monthly
Tees, Mowing	Daily
Tees, Topdress	Monthly
Fairways, Mowing	Daily
Fairways, Topdress	Annually
Roughs, Mowing	Daily
Golf Course Setup	
Cut Cups	Daily
Move Tee Markers	Daily
Trash, Ball Washers, Restrooms	Daily
Bunkers, Rake	Daily
Bunkers, Trim	Quarterly/as-needed
Bunkers, Install Sand	Annually
Fertilization	
Greens	Quarterly/as-needed
Tees	Quarterly
Fairways	Quarterly
Rough	Quarterly
Native Grass Areas	Never
Spraying	
Greens	As-needed

Tees	As-needed
Fairways	As-needed
Roughs	As-needed
Trees	As-needed
Watering trees	As-needed

Park Maintenance Task Schedule

Daily

- Mowing
- Trimming
- Edging
- Blowing
- Irrigation system check and repair
- Park Inspections
- Planter bed work
- Softball field prep
- Restroom Cleaning
- Pavilion cleaning
- Graffiti removal
- Tree Care

Weekly

- Mower/Equipment maintenance
- Garbage pickup

Monthly

- Aeration (spike or core)

Bi-Monthly

- Fertilizer application (best practice)
- Round up

Semi Annually

- Broadleaf herbicide
- Pre-emergent herbicide
- Fertilizer application (actual)
- Overseed
- Plant flower beds

Annually

- Add soil for baseball/softball fields
- Paint tables and benches
- Install snow fence
- Remove snow fence
- Autumn leaf removal
- Special event support
- Spring clean up

Section 5:

Spill prevention plan and clean up procedures

(See the Standard Operating Procedures Appendix of the SWMP)

Section 6:

Forms used for reporting and logging incidents

Spill Reporting Form
Storm Water Pollution Prevention Plan
West Valley City
Park Maintenance Division

Date _____ Person Reporting Spill _____

Spill Location _____

Action(s) Taken _____

_____

_____

- -

Date _____ Person Reporting Spill _____

Spill Location _____

Action(s) Taken _____

_____

_____

- -

Date _____ Person Reporting Spill _____

Spill Location _____

Action(s) Taken _____

_____

_____

SPILL LOG
STORM WATER POLLUTION PREVENTION PLAN
WEST VALLEY CITY
PARKS AND GOLF COURSES

DATE	LOCATION	WHAT SPILLED	PROPERLY CONTAINED & CLEANED	MANAGER NOTIFIED

STORM WATER POLLUTION PREVENTION TRAINING
WEST VALLEY CITY
PARK MAINTENANCE DIVISON

Date	Name	Location	Type

West Valley City
Parks and Recreation
Parks Maintenance Division
Storm Water Pollution Prevention Plan
Offsite Maintained Properties

Objective: Management of potential pollutants as they relate to storm water contamination, in the parks and other properties maintained by the West Valley City Park Maintenance Division.

Background: The West Valley City Parks Maintenance Division maintains numerous properties at various locations throughout the city.

Items of Concern:

1. Parking Lots of Parks
2. Fertilizer and Pesticide Management
3. Management of Mulch, Sand, and other Large Particulates.
4. Gasoline and Diesel
5. Paints and Solvents
6. Snow and Ice Melter

1) Maintenance Facility Parking Lot: Much of the parking area is on a gravel/dirt area that doesn't run off into the storm water system, however, parking areas that are on pavement are drained through a gutter that runs down the center of the driveway, to the east, and enters a drain box on the south east corner of the public works shop facility. Public Works sweeps the paved areas at least once a week. When cleaning of mowing equipment is performed by ramp, loose material is swept up, and thrown into trash.

2) Fertilizer and Pesticide Management: All Fertilizer and Pesticides used in Parks Maintenance are stored in the Maintenance Facility or Quonset Hut. Spill containment pallets are used for the following items: Liquid Fertilizers, Herbicides (selective and non-selective), Granular and Liquid Fungicides. Liquid spills are cleaned with sawdust and/or spill absorbents. Granular spills are collected and used in the parks for turf grass nutritional purposes. All vehicles used for spraying of herbicides/pesticides will be parked on the dirt/gravel when at the shop, and will be filled with chemicals only at spray sites, while on the turf.

3) Management of Mulch, Sand and other Large Particulates: These are stored in concrete storage bins located in the southeast corner of the shops complex, behind the salt shed. Spills are swept or blown back into the appropriate bins or swept up with a streets sweeper. When hauled to park sites, loads will be covered and spills swept up.

4) Gasoline and Diesel: All fuels are kept in appropriate fuel containers and stored in a fuel storage cabinet located inside the shop facility. It is equipped with a spill sump in the bottom to contain any spills. When equipment is refueled, it is done on a sidewalk or parking lot. Spills are handled with absorbent pads or kitty litter, then disposed of properly.

5) Paints and Solvents: These are stored inside the shop facility on spill pallets to contain any spills. Any spills off site are cleaned up with the appropriate measures.

6) Snow and Ice Melter: Snow and ice melter is stored either in the Park Maintenance Facility or in the Quonset Hut. If spilled, it is swept up, collected, and applied to sidewalks in the next snowstorm.

Pet Waste Signs in West Valley City Parks

Centennial Park

One sign on east side of west softball quad (Pet Waste Station)

One sign on south east of east softball quad (Pet Waste Station)

Promenade Park

One sign on west side of park on sidewalk on the south side of Lehman Ave

One sign on east side of park on sidewalk on the south side of Lehman Ave

One sign on south side of park, just west of scale

4.2.6.4.4 Vehicle Washing Policies

Multiple departments or divisions have different vehicle washing standards. When reference is made to the WVCPW Shops building, it refers to the contained, indoor car wash attached to the Shops building and connected to the sanitary sewer system for all wash runoff. Environmentally safe cleaners are used at the WVCPW Shops building.

- WVCFD washes their vehicles daily in the indoor fire truck bays. Regular maintenance is also completed indoors at the fire station or at the WVCPW Shops building.
- WVCPD washes vehicles at the WVCPW Shops building, their residence or at commercial car wash facilities.
- WVCPW (all divisions) wash vehicles either in a contained area at the WVCPW Shops building or at residences or commercial wash facilities.
- WVC general staff that use vehicles wash at their residence or at commercial washes.

DEICING PRACTICES

Description: Review current snow removal and deicing practices for prevention and reduction in storm water.

Since the city started snow removal in 1984 we have used type 3 road salt as our primary material for deicing we typically put down 324 lbs. of salt per lane mile. In 1995 and 1996 we started to use Magnesium Chloride, we tried that for two years but it caused us more problems than it solved so we stopped using it. In 2012 we started making and using brine as a pre-treating system at first but found out it works very well as a deicing agent also. As a deicing product, we use less salt while maintaining the same effectiveness for deicing. With salt brine we are using 108 gallons of brine per lane mile and it takes 2.28 lbs of salt to make one gallon of brine, equating to 246 lbs. of salt per lane mile. Additionally, the salt brine works at colder temperatures and does not get pushed off the road.

OPERATIONS DIVISION
SALT USED PER LANE MILE
2012 we started using Brine

Year

2004 34,827 Lane miles plowed and 5232 tons of salt = 300 lbs of salt per lane mile.
2005 19,700 Lane miles plowed and 2989 tons of salt = 303 lbs of salt per lane mile.
2006 24,117 Lane miles plowed and 3812 tons of salt = 316 lbs of salt per lane mile.
2007 33,323 Lane miles plowed and 5453 tons of salt = 327 lbs of salt per lane mile.
2008 53,729 Lane miles plowed and 8729 tons of salt = 324 lbs of salt per lane mile.
2009 37,932 Lane miles plowed and 4000 tons of salt = 210 lbs of salt per lane mile.
2010 25,341 Lane miles plowed and 2738 tons of salt = 224 lbs of salt per lane mile.
2011 11,212 Lane miles plowed and 1472 tons of salt = 262 lbs of salt per lane mile
2012 24,291 Lane miles plowed and 3502 tons of salt = 288 lbs of salt per lane mile. We also used 28,400 Gallons of Brine and treated 254 miles of road.
2013 52,533 Lane miles plowed and 9512 tons of salt = 324 lbs of salt per lane mile. We also used 260,730 Gallons of Brine and treated 2402 miles road.

SMALL NON HAZARDOUS SPILL CLEAN-UP REPORTING FORM

Your Name _____

Your division _____

Address of spill _____

Was the spill caused by a city vehicle? If so V I D # _____

Was the spill caused by a citizen/employee _____

Describe the spill _____

_____

_____

Can you identify the material of the spill? _____ YES NO (Circle one)

_____

Did the spill go into the storm drain? _____ YES NO (Circle one)

_____

About how much was spilled? _____

How did you contain the spill? _____

_____

How did you clean up the spill? _____

_____

How did you dispose of the spilled material? _____

_____

How did you notice the spill? _____

_____

What kind of surface was it on? _____

Date and Time the spill was cleaned up? _____

Material Safety Data Sheet
Prepared according to CFR 1910, 1200
01/07/2009

PRODUCT IDENTIFICATION:
TAGINATOR®
BIODEGRADABLE GRAFFITI REMOVER FOR MASONRY

Section IA – Manufacturer's Identification

EQUIPMENT TRADE SERVICE CO. INC.
20 E. Winona Ave.
Norwood , PA 19074

Reorder Phone: (610) 583-7657
Emergency Phone: CHEMTEL (800) 255-3924

Section IB – Product Information

TRADE NAME: TAGINATOR® CAS# Not Established = N/E
TYPE/USAGE: Graffiti Remover, Biodegradable (For Masonry)
DOT SHIPPING NAME: Corrosive Liquid, N.O.S., (Potassium Hydroxide), 8, UN1760, PGII

N.F.P.A. RATING: HEALTH (Blue) 2 FLAMMABILITY (Red) 1 REACTIVITY (Yellow) 0 SPECIAL (White) COR
(0=SAFE, 4=DANGER)

Section II – Hazardous Ingredients/Identity

CHEMICAL/COMMON NAME CAS#	OSHA PEL	ACGIH TLV	OTHER EXPO LIMITS	% (opt.)
Propylene glycol methyl ether acetate 108-65-6	N/E	N/E		
Potassium Hydroxide (45%) 1310-58-3	2mg/m3	2mg/m3		>10
TRADE SECRET				

In compliance with OSHA standard 29CFR Part 1910.1200

In compliance with the TCSA, all ingredients are inventory listed.

Section III – Physical & Chemical Characteristics

APPEARANCE: Slightly viscous brown liquid
ODOR: Fresh and Clean scented
SOLUBILITY IN WATER: Miscible
REACTIVITY IN WATER: None
MELTING POINT: N/A
SPECIFIC GRAVITY: 1.177 -.005 gm/ml
BOILING POINT: Greater than 220º F
VOC: LESS THAN 30% (BY WEIGHT)
VAPOR PRESSURE: N/E
VAPOR DENSITY: N/E
FREEZING POINT: less than -10 degrees F

Section IV – Fire & Explosion Data

FLASH POINT: 125ºF (CLEVELAND OPEN CUP) AUTO IGNITION TEMP: N/E
FLAMMABLE LIMITS IN AIR % BY VOLUME: LEL (lower): N/E UEL (upper) N/E
EXTINGUISHER MEDIA: CO2, dry chemical, foam, water spray
UNUSUAL FIRE & EXPLOSION HAZRDS: Empty containers may retain product residue. Do not pressurize, cut, heat, or expose containers to flame. Contact with acids can cause violent reaction.
SPECIAL FIRE FIGHTING PROCEDURES: Cool fire-exposed containers. Do not enter confined firespace without proper protective equipment including NIOSH approved self-contained breathing apparatus.

Section V – Physical HAZARDS (REACTIVITY DATA)

STABILTY: Unstable____ Stable__X__ CONDITIONS TO AVOID: None known
INCOMPATIBILITY (Materials to avoid): Avoid contact with strong oxidizers and acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and other unidentified organic compounds may occur during incomplete combustion.
HAZARDOUS POLYMERIZATION: MAY OCCUR____ WILL NOT OCCUR__X__

Section VI – HEALTH HAZARDS

ACUTE: Corrosive/irritant CHRONIC: None Expected SYMPTOMS OF EXPOSURE: Burns/Corrosive to skin and eyes
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None expected
CARCINOGENIC: No NTP: No LARC: No OSHA: No
ROUTES OF ENTRY:

Inhalation	Exposure to mist will irritate respiratory system.
Eyes	Contact will cause burns.
Skin	Contact will cause skin irritation or burning.
Ingestion	Swallowing will cause burning to mouth, throat and digestive system.

EMERGENCY FIRST AID PROCEDURES: INGESTION: Corrosive if swallowed, seek immediate medical attention. If conscious, give 8-20 fluid ounces of milk or water. Do not induce vomiting unless directed to do so by medical personnel. EYE CONTACT: Continually flush with

water and seek medical attention. SKIN CONTACT: Flush with water for 15 minutes. INHALATION: Move to fresh air. Always seek medical attention if complications develop.

Section VII – SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

HANDLING & STORAGE PRECAUTIONS: Keep container closed when not in use. Do not mix with other chemicals. Avoid breathing mist. Do not store near open flame or heat. Do not store near incompatible materials.
OTHER PRECAUTIONS: Do not take internally. Transfer material only to approved, properly labeled containers. KEEP OUT OF REACH OF CHILDREN.

STEPS TO BE TAKEN IN CASE OF SPILL: Use appropriate safety equipment. Eliminate sources of ignition. Collect and contain all spill with absorbent material for disposal. Contain large spills and pump into suitable tank for disposal. Wash area and rinse with water.
WASTE DISPOSAL METHODS: Obey all local, state and federal regulations.

Section VIII – SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

REPIRATORY PROTECTION: Chemical Mist Respirator in poorly ventilated areas.
VENTILATION: Recommended LOCAL EXHAUST: Recommended MECH: Recommended SPECIAL: None
OTHER: None
PROTECTIVE GLOVES: Nitrile or PVC
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Waterproof Boots, Waterproof clothing EYE PROTECTION: Chemical Safety Goggles

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe to be reliable. However, the information is provided without any warranty, expressed or implied. We do not assume responsibility and expressly disclaim liability for loss, damage or expense rising out of, or in any way connected with the handling, storage, use or disposal of the product. This MSDS may not be applicable if the product is used as a component of another product.

Tagaway

Material Safety Data Sheet
Prepared according to CFR 1910, 1200
01/07/2009
SMOOTH SURFACES

PRODUCT IDENTIFICATION:
TAGAWAY®
BIODEGRADABLE GRAFFITI REMOVER FOR PAINTED &

Section IA – Manufacturer's Identification

EQUIPMENT TRADE SERVICE CO. INC.
20 E. Winona Ave.
Norwood , PA 19074

Reorder Phone: (610) 583-7657
Emergency Phone: CHEMTEL (800) 255-3924

Section IB – Product Information

TRADE NAME:	TAGAWAY®	CAS# Not Established = N/E
TYPE/USAGE:	Graffiti Remover, Biodegradable	
DOT SHIPPING NAME:	Not hazardous in containers less than 120 gals. Per CFR49/173.150f (combustible)	

N.F.P.A. RATING: HEALTH (Blue) 1 FLAMMABILITY (Red) 1 REACTIVITY (Yellow) 0 SPECIAL (White) NA
(0=SAFE, 4=DANGER)

Section II – Hazardous Ingredients/Identity

CHEMICAL/COMMON NAME CAS#	OSHA PEL	ACGIH TLV	OTHER EXPO LIMITS	% (opt.)
1-Methyl-2-Pyrrolidinone 872-50-4	100 PPM	No Data	No Data	
Trade Secret				

In compliance with OSHA standards 29 CFR part 1910.1200
In compliance with the TCSA, all ingredients are inventory listed.

Section III – Physical & Chemical Characteristics

APPEARANCE: Thin amber liquid V.O.C.: Less Than 30% (by weight)

ODOR: Mild
SOLUBILITY IN WATER: Miscible
REACTIVITY IN WATER: None
MELTING POINT: N/A
SPECIFIC GRAVITY: 1.01+-.005 gm/ml
BOILING POINT: Greater than 200
VAPOR PRESSURE: N/E
VAPOR DENSITY: N/E
FREEZING POINT: Less than -10º F

Section IV – Fire & Explosion Data

FLASH POINT: Greater than 130º F
AUTO IGNITION TEMP: N/E
FLAMMABLE LIMITS IN AIR % BY VOLUME: LEL (lower): N/E UEL (upper) N/E
EXTINGUISHER MEDIA: CO2, dry chemical, foam, water spray
UNUSUAL FIRE & EXPLOSION HAZRDS: Empty containers may retain product residue. Do not pressurize, cut, heat, or expose containers to flame.
SPECIAL FIRE FIGHTING PROCEDURES: Cool fire-exposed containers. Do not enter confined firespace without proper protective equipment including NIOSH approved self-contained breathing apparatus.

Section V – Physical HAZARDS (REACTIVITY DATA)

STABILTY: Unstable____ Stable__X__
CONDITIONS TO AVOID: None known
INCOMPATIBILITY (Materials to avoid): Avoid contact with strong oxidizers and acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and other unidentified organic compounds may occur during incomplete combustion.
HAZARDOUS POLYMERIZATION: MAY OCCUR____ WILL NOT OCCUR__X__

Section VI – HEALTH HAZARDS

ACUTE: irritant CHRONIC: None Expected SYMPTOMS OF EXPOSURE: irritation, dryness
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None expected
CARCINOGENIC: No NTP: No LARC: No OSHA: No
ROUTES OF ENTRY:

Inhalation	Exposure to mist or fog in a confines area may irritate respiratory system.
Eyes	Contact will cause irritation or burning.
Skin	Prolonged contact may cause skin irritation or dryness.
Ingestion	Swallowing can cause irritation to mouth, throat and digestive system.

EMERGENCY FIRST AID PROCEDURES: Flush eyes and skin with water for 15 minutes. If inhaled move to fresh air. If symptoms persist, seek medical attention. If taken internally DO NOT induce vomiting, drink water. SEEK MEDICAL ATTENTION.

Section VII – SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

HANDLING & STORAGE PRECAUTIONS: Keep container closed when not in use. Do not mix with other chemicals. Avoid breathing mist. Do not store near open flame or heat. Do not store near incompatible materials.
OTHER PRECAUTIONS: Do not take internally. Transfer material only to approved, properly labeled containers. KEEP OUT OF REACH OF CHILDREN.

STEPS TO BE TAKEN IN CASE OF SPILL: Use appropriate safety equipment. Eliminate sources of ignition. Collect and contain all spill with absorbent material for disposal. Contain large spills and pump into suitable tank for disposal. Wash area and rinse with water.
WASTE DISPOSAL METHODS: Obey all local, state and federal regulations.

Section VIII – SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

REPIRATORY PROTECTION: Chemical Mist Respirator in poorly ventilated areas.
VENTILATION: Normal LOCAL EXHAUST: Recommended MECH: Recommended SPECIAL: None
OTHER: None
PROTECTIVE GLOVES: Nitrile or PVC
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Avoid skin exposure, Waterproof clothing EYE PROTECTION: Chemical Safety Goggles

Disclaimer of Liability

High Priority Grates (Cleaned on rain days)

JORDAN RIVER 4600 SOUTH

6950 WEST PARKWAY BLVD. (HUNTER VILLAGE BASIN) **2 grates**

1200 WEST BEAVER POND (3300 So)

3000 SOUTH 5990 WEST (MEADOWLANDS BASIN)

DECKER LAKE (2300 WEST PARKWAY BLVD.)

BACK NINE 4000 WEST WENDY AV. (2920 So) (LAKE PARK)

4400 WEST 2900 SOUTH (LAKE PARK)

4500 WEST 2900 SOUTH (LAKE PARK)

7080 WEST DALMATIAN DR. (3045 So)

VALLEY VU CONDOS (3600 So 4800 W)

3700 SOUTH 2200 WEST (Granger Elementary Basin)

METRO PARK (2200 So 1300 W) **2 Grates**

3394 SOUTH TIMERON DRIVE (5980 WEST) **IN FIELD**

3392 SOUTH HUNTER SPRING DRIVE (7020 WEST)**At Dead end**

Hydrodynamic Separators (Cleaned Biannually)

MARKET STREET 3500 SOUTH

3800 WEST SOUTH FRONTAGE ROAD

Siphons (Cleaned Biannually)

4100 SOUTH 4000 WEST

3500 SOUTH 5200 WEST

3100 SOUTH 4400 WEST

Checklist for City Shops Weekly Walk Through

- **Floor Dry bins full by Fuel Station**
- **Unknown containers throughout yard**
- **Containment bins full of water or other debris**
- **Spills anywhere in yard**
- **All materials pushed up in containment bins (if applicable)**
- **Condition of catch basins and BMPs**

		Golf Course Maintenance Weekly Checklist						
Date	Signature	Shop Swept	Shop Steam cleaned	inside inspection	Outside swept	Outside inspected	Drain cleaned	Drain Inspected

Quarterly Storm Water Inspection Form

Inspector Name(s):	**Date/Time:**
Site/Location:	**Weather Conditions:**

Item description to be inspected	**Yes**	**No**	**Not Applicable**	**Comments/corrective action (date corrected):**
Is the SWPPP up to date and provide all necessary documentation?	☐	☐	☐	
Are weekly and monthly inspection checklists complete and included in the SWPPP?	☐	☐	☐	
Were previous corrective actions completed?	☐	☐	☐	
Are there any signs of spills or discharges of pollutants to storm drains or waterways?	☐	☐	☐	
Is each storm drain inlet and/or catch basin clean and free of debris, accumulations of sediment and signs of contamination?	☐	☐	☐	
If installed, are BMP's (silt fence, filter fabric, trash grate, oil absorbents, etc.) in good condition?	☐	☐	☐	
Should BMP's be added at other locations to prevent pollutants from migrating to the storm drain?	☐	☐	☐	
Are all oil/water separators and sand traps operating correctly?	☐	☐	☐	
Do any oil/water separators or sand traps need to be serviced?	☐	☐	☐	
Are there adequate means to prevent a discharge to storm water outfalls (drip pans, spill kits, etc.)?	☐	☐	☐	
Is there evidence of spills or leaks around outdoor drums or containers?	☐	☐	☐	
Is there any defect or deterioration of oil or other chemical containers (e.g. bulging, dented, rusting) or secondary containment equipment (e.g. cracks, breaks, warping)?	☐	☐	☐	
Are dumpsters and waste storage/recycling areas clean?	☐	☐	☐	
Are containers closed?	☐	☐	☐	

Are chemical storage containers closed and protected from rain?	☐	☐	☐	
Is salt properly covered, contained and the surrounding area clean?	☐	☐	☐	
Are dry chemical, topsoil, mulch, sand or other storage areas clean?	☐	☐	☐	
Are vehicles and mobile equipment parking and storage areas clean?	☐	☐	☐	
Are there any signs of leaks that require clean up or drip pans?	☐	☐	☐	
Is housekeeping in other areas of the site adequate to prevent pollutants from being mobilized in storm water?	☐	☐	☐	
Are waste oils, used chemicals, and fuels being disposed of properly?	☐	☐	☐	
Are all batteries stored inside?	☐	☐	☐	
Do any batteries show signs of leaking or damage?	☐	☐	☐	
Are used batteries recycled or disposed of properly?	☐	☐	☐	
Are waste tires disposed of correctly?	☐	☐	☐	
Is there anything else stored outside that might be a concern for storm water exposure?	☐	☐	☐	
Is there an adequate Spill Response Kit and is it fully stocked?	☐	☐	☐	
Are there adequate controls to prevent unauthorized access to the site, such as fences, cameras, locks, security patrols, lighting at night? Are they working properly?	☐	☐	☐	

Other Comments:

I Certify that the information provided on this form is true to the best of my knowledge, and that all deficiencies noted (if any), will be passed on to the facility Manager and corrected.

Inspector Signature:_____

Facility Signature:_____

Structural Control Assessment

Date of Assessment:
Person(s) Assessing Controls:

Description of Structural Control:_____

_____

_____

_____

Assessment Findings:_____

_____

_____

_____

Recommendations of changes or additions to improve water quality:_____

_____

_____

_____

_____

Date Changes or Additions Implemented:

Parks and Recreation SWPPP New Employee training

1. Definition of SWPPP
2. Location of on-site SWPPP manual location
3. Knowledge of Spill containment kits and usage
4. Grounds tour
5. Video training (if available)
6. Testing

By signing, employee acknowledges receiving SWPPP training information.

X_____ Date_____

Parks and Recreation SWPPP Third Party/Contractors Training

1. Review WVC Storm Water Management practices
2. Request Storm Water Information from Contractor
3. Explain City Expectations regarding Storm Water
4. Contractor must agree to sign receipt of information and agreement to comply with WVC regulations

SWPPP Acknowledgement

West Valley City
Parks and Recreation

As a subcontractor for West Valley City Parks and Recreation, I understand and am aware that there are certain requirements regarding Storm Water for which I am responsible while performing the contracted work. I have been provided the BMPs for the areas in which I will be working.

Contractor Representative Date

City Representative Date

APPENDIX G

Standard Operating Procedures

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ESCALATING ENFORCEMENT

STANDARD OPERATING PROCEDURES

permit Section 4.2.4.2.1

All construction activities may be subject to inspection without notice.

It is your responsibility to protect your construction site from pollutants entering the City's Stormwater System.

- Verbal warning issued during all preconstruction meetings.
- In the event a preconstruction meeting was not warranted (e.g. Illicit Discharge, Single residential lot construction, etc), a written warning may be issued for the first violation.
- **Storm Water Enforcement** – Refer to the most current memorandum addressed to the West Valley City Attorney's Office that designates all personnel authorized in the Engineering Division to enforce storm water ordinance.
- **Administrative Citations** – May be written through the Administrative Code Enforcement ("ACE") Hearing Program in title 10 of the West Valley City Municipal Code. * The Engineering Division may issue citations as follows:
    - 1st citation: $100 per violation observed.
    - 2nd citation: $200 per violation observed.
    - 3rd citation: $300 per violation observed.
    - Provide appropriate information with citation
        - Issue citation, including citation number
        - Include corrective action(s) required
        - Give deadline date(s) for corrective actions to be completed
        - If not in compliance after deadline date has passed, issue a Notice of Violation
- A **Violation** is defined as a failure to implement or maintain any single BMP or construction activity which poses a pollution risk to the MS4. One violation may be considered multiple instances of the same offence (i.e. multiple catch basins without protection can be one offence), or it may be considered for each instance of an offence (i.e. each catch basin without protection can be one offence). It is at the discretion of the inspector to determine the seriousness of the violation and determine the appropriate number of violations observed. Issue the Notice of Violation per Title 10 and Title 18 of the City Code per procedure:
    - Issue NOV with reference to citation number
    - Issue a deadline of 10 days after date sent for compliance (give the nearest day of the week City Offices are open)

- Fine of $25.00 / day starts the following day after the 10 day deadline has expired.
- Track these dates within WVCPW database and take appropriate steps based on compliance or non-compliance. If non-compliance persists, WVCPW may incur the cost to implement the corrective action(s) and recoup, through appropriate legal channels, the cost for completing the work from the violator.

- In the event a violator refuses to sign the citation or is not present, ***the citation is delivered by certified mail to the responsible party's main address.***

- After a citation is delivered or mailed, receipt of payment is the responsibility of the City Attorney's Office. If payment is not received, The City has sole discretion to decide whether to file a civil or criminal case, or both, for a violation.

- **Stop Work Order** – May be issued at any time by authorized personnel for egregious acts which the inspector deems to pose a significant risk to health, safety and environmental quality.

- **Case escalated to State for further infractions as necessary.**

***Note: Citations shall be issued based on frequency and/or duration of infractions. The City reserves the right to take any and all enforcement actions permitted by law in the sole discretion of the City. Nothing in this document shall require the City to begin at a lower level of enforcement.**

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** **TRACING THE SOURCE OF AN ILLICIT DISCHARGE**	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 04/23/2014

APPROVED BY:

_____

Department Director or Division Head

PERMIT REQUIREMENT SUMMARY:

4.2.3.4 Requires that any illicit discharge be traced to its source so responsible parties can be held accountable and the illicit discharge can be stopped.

TARGETED POLLUTANTS OR HAZARDS:

Any non-storm water pollutant which enters into the storm drain system.

A. PURPOSE/DESCRIPTION:

1. Follow a methodical process to properly identify the contaminating source of an illicit discharge. Ideally, several people will be utilized for tracing the discharge in order to verify the source before the pollutant ceases to be observed.

B. WORK PROCEDURES:

1. Arrive and verify the location where the initial discharge was reported.
2. Visually inspect and observe reported discharge.
3. Respondents should never enter private property without permission and never put themselves in danger, including entering storm drain structures in any manner or form without proper protective equipment.
4. Utilizing the storm water system map, locate the next structure upstream of the discharge where observations can be made and open manhole lids to visually inspect discharges.
5. Observe at the upstream structure if there is non-storm water discharge at that location.
6. Steps 2 and 3 will be repeated until locating a structure where the discharge is not present.
7. If necessary, and as appropriate, the WVCPW will use the mobile video camera, equipment and field tests to verify pollutants and help trace the source of the discharge.
8. Where respondent feels it necessary, a 3rd party lab may be contacted for sampling and testing of samples.
9. When a structure observed does not contain evidence of an illicit discharge, one of two things will be determined.
   a) The source is no longer producing discharge and may not be further traced. The source may or may not be near this location. Observe surrounding areas or any further indication of the source of the discharge. If none is found, document findings for future reference.
   b) The discharge source should be located between the structure with no evidence of discharge and the next downstream structure. Observe surrounding areas to determine the source. If necessary, utilize video inspection equipment to locate the connection of the illicit discharge.
10. As appropriate, follow additional SOP's for next steps (Cease Illicit Discharge, Spill Response Plan and/or Characterize the Nature and/or Threat of the Illicit Discharge).
11. Complete all appropriate paperwork and inspection notes.

C. STAFF MEMBERS INVOLVED:

1. Stormwater Inspector(s)

D. EQUIPMENT (IF APPLICABLE):

1. Camera Truck
2. Personal Protective Equipment

E. EQUIPMENT CLEANUP PROCEDURES (IF APPLICABLE):

1. N/A

F. FORMS AND DOCUMENTATION (IF APPLICABLE):

1. Storm Drain Incident Report

4.2.3.5 SOP to Characterize the Nature and/or Threat of the Illicit Discharge

Purpose: To determine the nature of a discharge and if it poses a threat to the safety of the public or human and ecological life. This may be done by visual indicators (e.g. soap suds, discoloration, floating pollutants) and/or analysis (e.g. pH levels, chemicals present, hydrocarbon levels, etc.)

1) If informant of the illicit discharge knows what substance was discharged into the system, further identification may be unnecessary (e.g. paint was dumped into the system)
2) Characterize the nature of the discharge based on visual observation.
3) Samples of the discharge are collected, if necessary, and analysis may be completed if appropriate tools are readily available
4) If it is a hazardous substance, appropriate hazmat teams will be dispatched and can run necessary tests to determine the nature and extent of a threat the discharge may pose to public safety and life.
5) When necessary, labs will be utilized to determine complete composition of substances; however lab results may take a long time to process. Potential cleanup measures may have already taken place and if lab results indicate any further safety concerns, even after cleanup measures were completed, public notices may be issued as necessary.
6) Documentation will be completed with the decision process to characterize the discharge, including; steps indicating why a particular method was used, what containment measures were completed, analytical results.

4.2.3.6 SOP to Cease Illicit Discharges

Depending upon the nature of the discharge, the following SOP will be followed to cease the illicit discharge.

1) Verify source of discharge
2) Contact the property owner and/or responsible party
3) Require immediate cessation of the illegal discharge from the source upon confirmation of responsible parties as provided by WVCMC §10 and §18.
4) In the event that the illicit discharge is a sanitary sewer overflow, the improvement district with jurisdiction at the location of the discharge will be contacted to cease the illicit discharge and provide cleanup of the discharge per the improvement district's procedures.
5) If WVC Public Works personnel are trained in removing the substance, proceed with spill/dumping response procedures. Otherwise, WVCFD/hazmat teams should be dispatched for spill containment and cleanup.
6) A Notice of Violation shall be issued to the responsible party as necessary.
7) Require corrective measures as allowed by WVCMC §10 and §18 when necessary.
8) In some cases, the property owner or business operator may be unaware of the hazards posed by the illicit discharge or that an illegal connection exists. In these cases, provide necessary education and training to these individuals to prevent re-occurrence of illicit discharge.
9) As necessary, provide follow-up inspections after corrective measures have been installed to ensure proper construction and use of BMP's.
10) In certain circumstances it may be necessary to escalate enforcement and legal actions in order to achieve compliance of this minimum control measure.

The intent of these procedures is not to transform WVC into a cleanup company. As necessary, third-parties may be called in for clean-up efforts and WVC reserves the right to recoup any associated cleanup costs and/or construction costs per WVCMC §18 in order to comply with permit requirements.

4.2.3.9.1Spill Response Plan

The objective of this procedure is to prevent spills from reaching storm drain systems and impacting receiving waters.

Some or all of the following actions may be implemented when a spill occurs.

1) Initial notification of discharge received.
2) Observe and investigate the reported discharge per the Tracing the Source of an Illicit Discharge procedure.
3) Define the size, location, and content of the spill; its direction and speed of movement; and its hazard or risk to the safety of the general public or likelihood of affecting sensitive habitats.
4) Contact appropriate authorities as needed from the internal flow sheet based on provided information and/or initial observation for containment and cleanup. The product, if known, may dictate the response. These may include:
    a. WVC Public Works storm water personnel
    b. WVC Police Department
    c. WVC Fire Department (Haz-Mat) – including all unknown hazardous materials
    d. Salt Lake County Health Department
    e. State of Utah Division of Water Quality
    f. Environmental Protection Agency
    g. Local wastewater improvement districts (Granger-Hunter Improvement District, Kearns Improvement District, Taylorsville-Bennion Improvement District or Magna Water District)
5) Get trained personnel and equipment to the site quickly.
6) Ensure the safety of all response personnel and the public.
7) Stop the flow from the source, if possible, and prevent ignition, if flammable.
8) Contain the spill to a limited area.
9) Remove the spilled material using proper techniques for the particular substance.
10) Dispose properly of the spilled material after removal.
11) Issue citations as appropriate following the Escalating Enforcement SOP.
12) Follow up as needed where corrective actions are required.

The following table provides an easy reference guide to classify the type of spill. This table should be utilized to help identify the proper response procedure.

Table 1 Classification of Spills

Classification of Spills (all spills will be responded to 24/7)				
Criteria	**Level I**	**Level II**	**Level III**	**Level IV**
Small Spill	X		X	
Large Spill		X		X
Non-hazardous Material Identified (i.e. engine oil, antifreeze, hydraulic oil)	X	X		
Unknown Material			X	X
Hazardous Material Identified			X	X
WVC Emergency Operation Plan Activated?	No	Not Likely	Maybe	Maybe
Response Leader	WVCPW	WVCFD/Hazmat	WVCFD/Hazmat	WVCFD/Hazmat
Immediate Threat to Life and/or Property?	No	Maybe	Maybe	Likely
Does Spill Pose Liability to WVC?	No	Maybe	Maybe	Maybe
Has Injury Potential for Citizens or Responders?	Low	Maybe	Maybe	Maybe
Potential to Reach State Water Bodies	Low	High	Low	High
City Infrastructure Impaired or Damaged	Unlikely	Maybe	Likely	Likely
Traffic Control Measures Needed?	No	Maybe	Maybe	Likely
Support needed from Additional Agencies/Divisions	Unlikely	Maybe	Maybe	Maybe

Response Type

Different responses will be followed based on the type and amount of material involved in the spill. The table that follows lists the various types of spills with their corresponding procedures to respond to the spill.

Note: When an accident has occurred where Law Enforcement and a Wrecker has responded, the Wrecker driver is responsible for cleanup of these small spills. City contracted sanitation organizations are also required to clean up their spills.

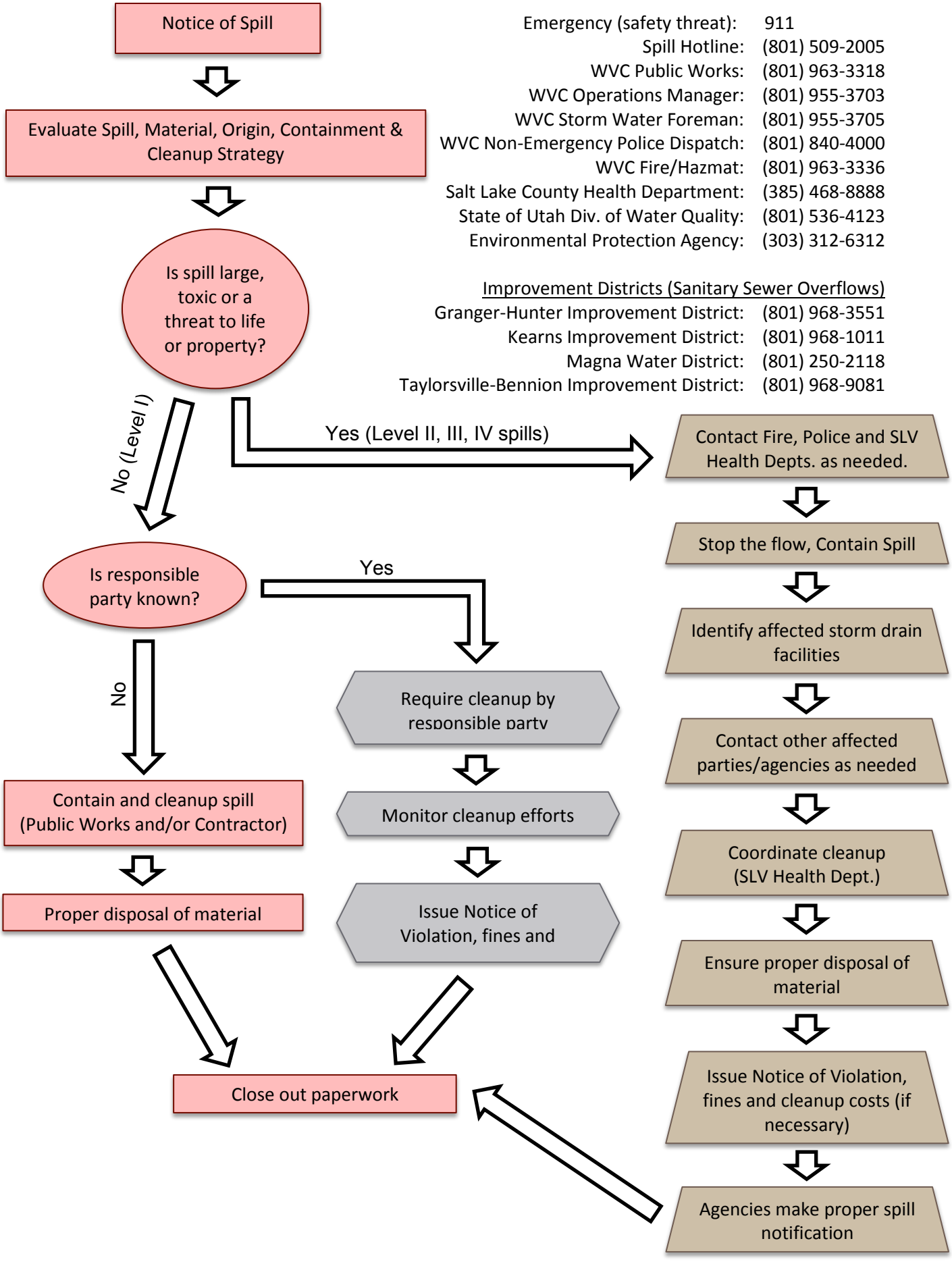
Table 2 Spill Responses Based on Spill Classification

Spill Response Plan (Each spill will be attended to in the following manner, depnding upon spill classification)				
Action Item	**Level I**	**Level II**	**Level III**	**Level IV**
Lead Agency	WVCPW	WVCFD/Hazmat	WVCFD/Hazmat	WVCFD/Hazmat
WVCPD Dispatched?	No	Possible	Possible	Possible
SLV Health Dept. Dispatched	No	Yes	Yes	Yes
Additional Agencies/Divisions or 3rd Party Contractors Dispatched (as needed)	X	X	X	X
Evaluate Spill and Decide Mitigation Strategy	X	X	X	X
Place Traffic Control Measures (as needed)	WVCPD	WVCPD	WVCPD	WVCPD
Utilize Appropriate Protective	X	X	X	X
Spill Containment	WVCPW	WVCFD/Hazmat	WVCFD/Hazmat	WVCFD/Hazmat
Identify Unknown Substance			X	X
Spill Cleanup (if Responsible Party Known) - WVCPW Monitors Cleanup to Ensure Compliance	Resp. Party (if Qualified)	Resp. Party (if Qualified)	WVCFD/Hazmat	WVCFD/Hazmat
Spill Cleanup Coordination	WVCPW	WVCFD/Hazmat	WVCFD/Hazmat	WVCFD/Hazmat
Sweepers Dispatched	As Needed	As Needed	As Needed	As Needed
Material Disposal (very small spill)	Dumpster		Hazmat	
Material Disposal	WVCPW Containment Area	Hazmat	Hazmat	Hazmat
Who Addresses Media Questions			WVCFD	WVCFD
Document Incident Report	X	X	X	X
Report All Reportable Quantities as Required		X	X	X
Notice of Violation Issued (if responsible party is known)	X	X	X	X
Fines Imposed (where applicable)	X	X	X	X
Follow Up Inspection (when necessary ie. Removal of illicit connections, damage to infrastucture)	X	X	X	X
Costs Recouperated from Responsible Party	X	X	X	X

Sanitary Sewer Overflows (SSO)

When SSO's occur, the appropriate wastewater improvement district (listed on flow chart) will be contacted for response and cleanup. If requested or required by the responding district, WVCPW will assist under their direction in providing response support. Additionally, investigative reports will be completed and submitted to the Division of Water Quality with our annual report.

West Valley City Public Works
Spill Response Plan Flow Chart



Emergency (safety threat):	911
Spill Hotline:	(801) 509-2005
WVC Public Works:	(801) 963-3318
WVC Operations Manager:	(801) 955-3703
WVC Storm Water Foreman:	(801) 955-3705
WVC Non-Emergency Police Dispatch:	(801) 840-4000
WVC Fire/Hazmat:	(801) 963-3336
Salt Lake County Health Department:	(385) 468-8888
State of Utah Div. of Water Quality:	(801) 536-4123
Environmental Protection Agency:	(303) 312-6312

Improvement Districts (Sanitary Sewer Overflows)

Granger-Hunter Improvement District:	(801) 968-3551
Kearns Improvement District:	(801) 968-1011
Magna Water District:	(801) 250-2118
Taylorsville-Bennion Improvement District:	(801) 968-9081

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY: STORM WATER POLLUTION PREVENTION PLAN REVIEW AND INSPECTION**	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 12/18/2013
APPROVED BY: _____ Department Director or Division Head			
PERMIT REQUIREMENT SUMMARY: 4.2.4.3 SWPPP review and record keeping for all construction sites that disturb greater than or equal to 1 acre, including projects less than one acre that are part of a larger common plan of development or sale, to ensure plans are complete and in compliance with State and Local regulations.		**TARGETED POLLUTANTS OR HAZARDS:**	

A. PURPOSE/DESCRIPTION:

1. Develop a standard procedure for reviewing and keeping record of active Storm Water Pollution Prevention Plans

B. WORK PROCEDURES:

1. SWPPP is submitted by developer and reviewed in office - NOI verification and verification that State DEQ template was followed in the SWPPP development.
2. Identify potential water quality impacts - especially sites that discharge directly into or immediately upstream of water that the state recognizes as impaired through the use of the Storm Water Quality Checklist.
3. Ensure that opportunities for LID and green infrastructure are considered by developers through the use of the Storm Water Quality Checklist.
4. Ensure that appropriate long-term storm water management measures meet requirements of the long-term storm water management program.
5. WVC Storm Water Construction Permit Issued after SWPPP approval
6. A pre-construction SWPPP review meeting is held which includes a review of the site design, the planned operations at the construction site, planned BMPs during the construction phase, and the planned BMPs to be used to manage runoff created after development.
7. Maintain a copy of SWCP and SWPPP in WVC database for a minimum of 5 years or until the project is complete, whichever is longer.

C. CREW MEMBERS INVOLVED:

1. SWPPP Reviewer
2. Construction Inspector(s)
3. Storm Water Inspector(s)

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment - If needed for site inspections

E. EQUIPMENT CLEANUP PROCEDURES:

1. (N/A)

F. FORMS AND DOCUMENTATION:

1. WVC Storm Water Quality Checklist

CONSTRUCTION STORMWATER INSPECTION - updes

(Utah Pollution Discharge Elimination System)

STANDARD OPERATING PROCEDURES

PERMIT SECTION 4.2.4.4

Subdivision, Commercial, Industrial, Single Family and Multi-Family Developments

- RSI (Registered Storm Water Inspector) to obtain copies of West Valley City Storm Water Permit and the approved SWPPP (Storm Water Pollution Prevention Plan) from West Valley City Engineering Division.
- RSI to review approved permit and **SWPPP** prior to meeting with designated ECS (Environmental Control Supervisor).
- Discuss/review approved **SWPPP** during preconstruction meeting with Project ECS.
- Visually inspect the permitted site **SWPPP** and verify all required BMPs (Best Management Practices) are properly placed per approved Plan.
- Observe roadways for any mud and dirt tracking onto roadways. If tracking is observed, require cleanup and issue appropriate enforcement measures.
- Verify findings of the site inspection by completing the approved state **UPDES Storm Water Inspection Evaluation Forms** for **SWPPP** compliance.
- Inform on-site ECS of any possible **SWPPP** deficiencies and possible violations.
- If warranted, issue **Stop Work Order** and or **Administrative Citation** per City Ordinance.
- Follow-up as needed (i.e. as directed by RSI on written inspection/citation).

Note: UPDES Inspections will take place at a minimum once a month during the active construction progression. A Storm Water Pollution Prevention Plan (SWPPP) is required for all new developments and substantial modifications to existing sites exceeding one acre in area. Areas smaller than one acre will not require a formal SWPPP, however, will still be required to provide adequate BMP measures for their specific site.

Standard Operating Procedures for Post Construction Inspections

Purpose: The purpose of conducting Post Construction Inspections is to work with commercial and industrial businesses to educate, inform, require, and when necessary enforce the implementation of Storm Water Managements Plans as required in the West Valley City Storm Water Permit. The inspections are a tool to require industry to implement Best Management Practices that eliminate illegal dumping and, eliminate or mitigate the impacts of illicit discharges from spills or leaks. The ultimate goal is to improve water quality by preventing pollutants form getting into the municipal separate storm sewer system and Waters of the State.

Procedures:

1) Inspector reviews file of industry to be inspected. This will include reviewing previous inspections, contact information, enforcements, storm drain maps, and any other information to improve the inspection.
2) After the inspector has reviewed file he/she has the following inspection options:
   A) If the history of the industry indicates no previous problems and a minimal potential of contamination to the storm drain the inspector may inspect the property without making contact with the company representative. If inspector finds no issues the inspection is complete. If inspector finds storm water issues that requires corrections an inspection is done with the proper company representative.
   B) The inspector makes contact with the proper company representative and makes an appointment for an inspection.
3) Inspector discusses with the company representative the goal of the storm water program and the benefits of following their Management Plan to eliminate pollutants from entering the storm water system. This includes the benefit of better water quality, and the encouragement to the industries of keeping pollutants from discharging to the storm drain system that may lead to expensive clean-up and potential fines.
4) Inspector will ask if the company representative has any questions or concerns regarding the inspection or the Storm Water Management requirements.
5) Inspector will ask for a copy of applicable Storm Water Permits. The company should have a West Valley City Storm Water Management Permit on site. A State of Utah Storm Water Permit for Industrial Activities may also be presented if the company is required to have a State permit.
6) Inspector reviews with the company representative their Storm Water Management Plan.
7) Inspector will review all documentation of the company storm water inspections, storm drain box cleaning, if any spills occurred, and clean-up measures taken, changes the SWMP, employee training, and any additional pertinent storm water documentation.
8) Inspector and company representative does a walk thru of the facility. All storm drain conveyance, boxes, snout locations, retention or detention basins, and storm water related improvements are inspected.

9) Inspector will look at general housekeeping practices to include landscaped areas, paved areas, dumpster locations, containment areas, fueling islands, bone yards, docking areas, etc.
10) Inspector has company representative show him spill kit(s).
11) If the company has raw materials and finished product stored inside that are loaded and unloaded at the facility on a regular basis inspector may tour the inside building(s) of the facility.
12) If during the inspection a deficiency is observed the inspector will require corrections be made. In some instances where serious violations are found an immediate cease of the discharge order may be initiated and other government agencies may be contacted for additional enforcement and cleanup.
13) Inspector may take photos as needed.
14) Conclude inspection and let the company representative of findings. Best Management Practices that appear to be working should be mentioned as a positive finding. Let the representative know of any deficiencies that will require immediate attention, or deficiencies that need to be corrected within 30-60 days as applicable.
15) Complete industrial storm water checklist.
16) Write a letter to the company representative with inspection findings. This may include implementation of Best Management Practices that appear to working, and any requirements to make corrections to deficient areas found during the inspection. The letter requires representative to call for a re-inspection when corrections are made.
17) If corrections were required re-inspect the facility and check off correction if it is satisfactory. If correction is not satisfactory, require facility to fix the problem and re-inspect until correction is made. In some cases enforcement and penalties may be needed.

West Valley City
Parks and Recreation
Best Management Practices
Standard Operating Procedures

Objective: Onsite management of mowing, trimming, edging, debris removal and fertilizer and pesticide applications to provide a safe working environment and pollution free parks and golf courses.

Storm Water Training & Inspections

- Pollution preventions training for all parks personnel will be performed annually during the month of February. This training will also be part of orientation of new employees as well as rehired seasonal employees.
- Employees are supervised to ensure compliance.
- Sites are inspected weekly by qualified personnel.

Lawn Maintenance Activities

- Read manual if available. Become familiar with machine safety.
- Watch safety/training videos.
- Inspect mower before operating. Ensure all guards and shields are in place. Check for loose bolts/nuts and tighten if necessary. Do not make repairs or adjustment to mower while engine is running, unless owner's manual states otherwise.
- Eye and ear protection is provided and is requires that it be worn while operating any type of power equipment.
- Check the mower for presence of an enclosed canopy for head protection or ensure proper head protection be used.
- Check fluid levels before starting daily work and after lunch.
- Check area to be mowed and remove all trash, papers, bottles, rocks and other debris.
- When mowing: always make two to three passes around the outside, discharging clippings to the inside of the property being mowed.
- Always maintain a safe operating distance from people, at least 40 feet. If people are using the area you are mowing, mow around them, maintaining a safe distance, or ask them to move. **Always discharge clippings away from people.**

- After mowing, blow all grass clippings from walks and ensure curbs and gutters are cleaned of all grass clippings and dirt.

- Avoid hitting and damaging objects with mower by maintaining a safe distance between objects and mower. Be especially careful not to hit trees.

- When transporting, always ensure mower is fastened securely to trailer with chains and/or straps. Apply parking brake properly.

- Exercise extra care while mowing on slopes. Wear seat belts and ensure all safety systems are in place. Avoid sudden starts and stops on slopes. Do not park on slopes.

- Always refuel safely, follow refueling SOPs.

- Check for presence of a complete functioning spill kit

Edging procedure

- Before using:
    - Make sure you know whether edger is two stroke or four stroke
    - Check edger to ensure all guards and safety devices are properly installed and are not broken
    - Ensure all bolt, screws and fasteners are tight
    - Check fuel level and add as needed following refueling procedures
        - Use mixed fuel for two stroke edger
        - Use regular fuel for four stroke edger
    - Check oil level, if applicable
    - Check edger blade wear
    - Report any broken, missing or loose parts so they can be fixed before use
- During Use:
    - Safety glasses and ear plugs are required
    - Stay behind machine
    - Set blade depth to cut the edge between ¼ to ¾ of an inch deep
    - Stay next to sidewalks and curbs, trying to grind as little of the concrete as possible
    - Stop blade when changing from one area to another
    - Exercise extreme caution when edging around vehicles
    - Watch for sprinkler heads, do not cut them
    - Edges should be squared off to 90 degrees
    - Check blade for wear, replace when needed
    - Make sure edger is shut off before performing maintenance or repairs
    - Follow refueling procedures when refueling
- If you have any questions, please ask appropriate supervisor

Debris blowing procedure

- Before using:
    - Check blower to ensure all guards and safety devices are properly installed and are not broken
    - Ensure all bolt, screws and fasteners are tight
    - Check fuel level and add as needed following refueling procedures
    - Report any broken, missing or loose parts so they can be fixed before use
- During Use:
    - Safety glasses and ear plugs are required
    - Blow debris from sidewalks, cart paths, jogging paths, parking lots, and curb and gutters
        - Blow grass clippings and other green waste back onto turf
        - Pick up garbage
        - Ensure curb and gutters are clean to prevent any debris from entering the storm drain system
    - Exercise extreme caution when blowing around vehicles
    - Do not blow debris at people
    - Make sure blower is shut off before performing maintenance or repairs
    - Follow refueling procedures when refueling
- If you have any questions, please ask appropriate supervisor

Equipment maintenance activities

- Visually check equipment to ensure all safety equipment is functional.
- Check for leaks i.e. hydraulic, cooling, engine fluids or fuel daily.
- Read all applicable service manuals and develop service plans to ensure all service parts are replaced as to date and hours on the equipment.
- Make sure all hoses and related equipment are replaced when required by the service manual to reduce spills.
- Dispose of all fluids in a manner not to pollute storm water drainage or sewer system.
- Check that each applicable machine has a complete spill response kit.
- In the event of a spill the machine is to be put on a trailer and brought in to the repair shop rather spilling a containment on the ground all the way in. Unless the leak can be repaired in the field.

Vehicle and Equipment Cleaning

- Vehicles and equipment are to be washed on approved wash areas.
- Washed vehicles or equipment is never to be washed where water could enter the storm drain system or open water.

Chemical/Material Storage

- All fertilizer and pesticide containers are in designated area and in containment bins.
- Fertilizers and pesticides are to be used correctly as to the direction on product label.
- Liquid Formulations have containment bins to contain any size leaks.
- Granular formulations are to be swept and removed off paths and roadways.
- Never apply a product to adjacent waterways unless product label indicates that it is safe to do so.
- Fertilizer and pesticide applicators will be licensed or supervised directly by a licensed applicator.
- In the event of a spill the effected will be cleaned-treated as the label of the particular formulation requires.

Refueling Procedure

In areas with a fuel pump:

- Park next to appropriate pump
- Turn off engine
- While equipment is being refueled, stay where you can see nozzle.
- If a spill occurs, spread appropriate spill containment (located by pumps) to soak op the spill, and then dispose of properly.
- If spill occurs fill out spill report and turn in to supervisor

If refueling in a park or on a golf course using a gas can:

- If possible get to a hard surface such as a parking lot, sidewalk or cart path.
- Turn off engine.
- Use caution while refueling to ensure fuel does not spill.
- If spill occurs, spread appropriate spill containment (pad or calcined clay, located on the equipment or transport vehicle), and clean up as required.
- If spill occurs fill out spill report and turn in to supervisor.

Cleaning of garbage containers

- Garbage containers are to be washed out on an appropriate wash pad.
- Wash water is to be treated before entering sewer system.
- Wash water is never allowed to drain into storm drains

Proper Sediment/Erosion control

- Silt fences are to be employed to prevent soil from running into adjacent waterways during projects and when bare soil is present.

West Valley City
Parks and Recreation
Spill Prevention plan and clean up procedures

Spill Prevention - Materials and Waste Handling and Storage

- If possible, liquid or hazardous materials should be handled, used, stored, re-package and transferred indoors or under cover.
- Deliveries of bulk liquids should be supervised. Down gradient storm drain inlets should be covered during deliveries.
- Cover and contain containers, materials and wastes.
- Keep all containers closed unless adding or removing materials.

Spill Kit Maintenance

- Spill kits are located at the following locations: _WVC Parks Building, Westridge Maintenance Building and Stonebridge Maintenance Building and on/in equipment.
- Inspections of spill kit and re-supplying is done monthly

Gasoline or Diesel Spills

- Immediately stop
- Turn off engine
- Remove kit contents immediately put on latex gloves
- Assess nature of spill. Gasoline, diesel, oil, or anti-freeze
- Act quickly but safely, use absorbent pads and rolls to surround and contain spill.
- Contact Supervisor for appropriate pan, bucket, etc. to stop spill from reaching the containment pads.
- Dispose and decontaminate the area using containment bag in the kit and in compliance with local state and federal regulations. If necessary decontaminate the spill site, personnel and equipment.
- Fill out the spill reporting form file with your supervisor

Hydraulic spill

- Immediately stop
- Turn off engine
- Remove kit contents immediately put on latex gloves
- Assess nature of spill.
- Act quickly but safely, use absorbent pads and rolls to surround and contain spill.
- Contact Supervisor for appropriate pan, bucket, etc. to stop spill from reaching the containment pads.
- If spill reaches soil dig up affected area. Dispose of soil appropriately.

Chemical spill

Granular application

- Clean up spills by sweeping, or blowing product into a pile and collecting
- Use on another property when possible
- Notify your supervisor
- Fill out a spill reporting after the clean up process

Liquid Spill

- Follow proper cleaning procedures using mats, absorbent material, and waddles to prevent spreading
- Dispose of properly
- Notify your supervisor
- Fill out a spill reporting form after the clean up process

Gas Storage tank leak

- Put waddles around storm drain**s**
- Cover storm drain
- Use absorbent pads and or calcified clay or other absorbent
- Dispose of absorbent properly

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** Cleaning Garbage Containers	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 12/09/2013
APPROVED BY: _____ Department Director or Division Head			
PERMIT REQUIREMENT SUMMARY: 4.2.6.4.3 Clean garbage containers to remove any remnant trash from the garbage containers and to reduce odors		**TARGETED POLLUTANTS OR HAZARDS:** Any remnants of trash in the garbage containers	

A. PURPOSE/DESCRIPTION:

1. Clean Garbage Containers to remove any remnant trash from the garbage containers and to reduce odors

B. WORK PROCEDURES:

1. Move empty garbage container to appropriate wash pad
   a) Water from wash pad is to be treated before entering the sewer system
   b) Water from wash pad shall not flow into the storm drain system
2. Use a hose and spray nozzle to clean out garbage container

C. CREW MEMBERS INVOLVED:

1. 1x Employee

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) Work Gloves
   b) Safety Glasses
2. Wash Pad
3. Water Hose
4. Spray Nozzle

E. EQUIPMENT CLEANUP PROCEDURES:

1. Empty water from hose
2. Gather hose and return to storage

F. FORMS AND DOCUMENTATION:

1. N/A

Application Procedure for Pesticides, Herbicides, and Fertilizers
West Valley City
Parks and Recreation

Granular Application

1. Read and understand all labels, and application instructions
2. Ensure spreading device is calibrated or adjusted correctly
3. Apply to desired area at proper rates
4. Any product that is spread onto pavement by accident should be swept or blown back onto treated area where possible, if it is not possible, proceed to step five
5. If a spill occurs
    a. Clean up spills by sweeping, or blowing product into a pile and collecting
    b. Use on another property when possible.
    c. Notify your supervisor
    d. Fill out a spill reporting form after the clean up process
        i. Forms are located in the SWPPP binder

Liquid Applications

1. Read and understand all labels and all application instructions
2. Ensure application device is calibrated, adjusted, and operating properly
3. Fill tanks in the field whenever possible
4. When installing chemicals into holding tank, use caution to avoid spilling
5. Apply to desired areas at proper rates
6. Try to empty spray tanks by the end of each day to prevent the need to store mixed chemicals (this does not apply to fertilizer injectors)
7. If a spill occurs
    a. follow proper cleaning procedures using mats, absorbent material, and waddles to prevent spreading
    b. dispose of properly
    c. notify your supervisor
    d. fill out a spill reporting form after the clean up process
        i. Forms are in the SWPPP binder

West Valley City Shops Storage and Cleaning Procedures

In order to maintain a clean and compliant facility, all West Valley City employees will adhere to the following procedures:

1. All City vehicles are to be parked in the city shops lot.
2. Vehicles which are leaking fluids will be placed inside a building; otherwise, a containment pan will be used to catch the fluids.
3. Any equipment which stores oil based products will be parked in the carbon bin and/or slurry containment areas.
4. Any equipment which stores herbicides and/or pesticides will be parked inside of the building and/or the salt containment bin.
5. All cleaning of the asphalt/slurry equipment will be done in the carbon bin.
6. All cleaning of any other equipment will be done in designated wash-out areas only.

PERFORMANCE STANDARD

ACTIVITY: Remove and Replace Asphalt

ACTIVITY CODE:

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Patch road surfaces, (blowups and cracking) using 1/2” and 3/4” Hot Mix Asphalt (H.M.A.)

WORK MEATHOD:

1. Place safety devices and signs.
2. Place the storm water pollution prevention devices in order to protect the inlet boxes and gutters.
3. Remove the failed asphalt and clean the edges.
4. Repair the base as needed.
5. Compact the base.
6. Tack the edges.
7. Using the method that best suits the situation, place the first course of HMA and compact it with the roller.
8. Using the laydown machine, place the top layer and prepare the edges.
9. Compact it all with the roller.

CREW, EQUIPMENT, MATERIAL, PPE		EQUIPMENT CLEAN UP PROCEDURES	
CREW SIZE: 6 to 8 people truck drivers backhoe operator ground workers laydown machine operator roller operator flaggers		Clean the laydown machine and any hand tools in the hydrocarbon bin using release agent, hand scrapers, and the pressure washer in the car wash.	
EQUIPMENT: DESCRIPTION	EQUIP. NO		
backhoe			
dump trucks	measuring wheel		
roller	calculator		
laydown machine	tack wagon		
shovels, rakes, broom	propane		
asphalt saw	trailers		
PPE: hard hat gloves safety shoes safety vest steel toe boots safety devices and signs			
MATERIAL: 1/2” or 3/4” HMA CSS-1 (tack oil) Road Base rock if needed		PRODUCTIVITY	WORK UNIT
		20-40 tons	tons per day

PERFORMANCE STANDARD

ACTIVITY: Pothole Patching with UPM

ACTIVITY CODE:

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Patch potholes in the asphalt surfaces using UPM.
Many times locations of potholes are reported to the workers in the office by concerned citizens. Other times, WVC employees will notice to potholes and take care of them.

WORK METHOD:
Find potholes by traveling street by street. When a hole is found, follow this procedure:
1. Use safety lights on truck
2. Clean potholes
3. Shovel mix into the hole and level
4. Compact with truck wheels

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN UP PROCEDURES
CREW SIZE: 1 driver 1 workman	
EQUIPMENT: DESCRIPTION — EQUIP. NO flatbed truck — 1116 1 broom 2 shovels weed burner 1 fork	Clean the truck bed and any hand tools used in the hydrocarbon bin while using a shovel and, if necessary, the pressure washer in the car wash.
PPE: safety toe shoes safety vest/coat gloves	
MATERIAL: UPM cold mix	

PRODUCTIVITY	WORK UNIT
VARIES BY DAY	TONS PER DAY

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** **THIN COAT ASPHALT PATCHING**	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 12/04/2013

APPROVED BY:

_____

Department Director or Division Head

Productivity:
20-30 Tons Daily

Work Unit:
Tons per Day

PERMIT REQUIREMENT SUMMARY:

4.2.6.4.5 Requires that activities involving the operations and maintenance of City owned facilities, including, but not limited to; roads, buildings, street sweeping and plowing, have procedures in place to reduce pollutants and debris from entering the storm drain system.

TARGETED POLLUTANTS OR HAZARDS:

Hot Mix Asphalt and CSS-1 Tack Oil.

A. PURPOSE/DESCRIPTION:

1. Patch road surfaces using ¼" Hot Mix Asphalt
2. Fill depressions, potholes, cracks, etc. in preparation for slurry seal/chip seal.

B. WORK PROCEDURES:

1. Place traffic control, safety devices, and/or signs to direct traffic away from the work area.
2. Place storm water pollution prevention devices to protect the inlet boxes, gutters, and other storm drain features.
3. Use a street sweeper truck to clean the work area as needed.
4. Spray the boundaries of the repair area with CSS-1 Tack Oil.
5. Place the asphalt in the area of repair using dump trucks and laydown machine to create a uniform surface.
6. Smooth edges and any irregular areas of the asphalt mat with a shovel, rake, and/or broom as needed.
7. Compact the asphalt with the smooth drum roller.
8. Remove the traffic control and safety devices after work is completed.

C. STAFF MEMBERS INVOLVED:

1. Laydown Machine Operator
2. Dump Truck Drivers
3. Roller Operator
4. Ground Operators (2 Min.)
5. Sweeper Truck Driver
6. Flaggers (as Needed)

D. EQUIPMENT (IF APPLICABLE):

1. 1x Laydown Machine
2. 1x Smooth Drum Roller
3. 2x Dump Trucks
4. 1x Sweeper
5. 1x Pickup Truck
6. Traffic Control Equipment:
   a) Warning Signs
   b) Traffic Cones
7. Personal Protective Equipment:
   a) Safety Shoes
   b) Safety Glasses
   c) Work Gloves
   d) Reflective Vests
8. Materials
   a) ¼" hot mix asphalt
   b) CSS-1 (tack oil)

E. EQUIPMENT CLEANUP PROCEDURES (IF APPLICABLE):

1. Use a street sweeper truck to clean the work area and any nearby affected area
2. Clean Laydown machine and any tool used in the hydrocarbon bin using release agent, hand scrapers, and the pressure washer.
3. Remove storm water pollution prevention devices
4. Remove traffic control and other temporary safety devices.

F. FORMS AND DOCUMENTATION (IF APPLICABLE):

1. N/A

PERFORMANCE STANDARD

ACTIVITY: Street Sweeping

ACTIVITY CODE: 240

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Sweep all city streets once a month in order to keep the city clean and to prevent traffic/pedestrian accidents from happening as a result of rocks and debris on the road ways.
The street sweepers are also used per requests from Police dispatch to clean automobile accident residual and/or

WORK METHOD

There are 4 street sweepers. Each Operator I is given a map of the storm drain index. All streets on the map are swept until the map is completed. Adjacent City-owned or operated parking lots in the area are also swept.

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN-UP PROCEDURES
CREW SIZE: 4 Operator I-III- one for each sweeper	1. Dump all solids from the hopper into the sweepings bin to be hauled to the landfill when necessary. 2. Proceed to the approved wash out area and clean the hopper thoroughly, including the internal screens and pick up tubes. 3. Wash the outside of the vehicle.
EQUIPMENT: DESCRIPTION / EQUIP. NO sweeper 959-1074-1128-1135	
PPE: None	
MATERIAL: None	

PRODUCTIVITY	WORK UNIT
15-20 miles	miles per day

PERFORMANCE STANDARD

ACTIVITY: Right of Way

ACTIVITY CODE: 242-243

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Clean the trash and cut the weeds from the City's Right of Ways.

This crew has a set schedule which they work every year. When they have completed the scheduled work, they move on to help clean the storm drain basins.

WORK METHOD

1. Clean up the trash and haul it away.
2. Cut the weeds and haul it away.
3. Trim the trees if necessary and haul the limbs and branches away.
4. If there is any type of weed spraying in these areas make sure you follow the manufactures application and safety guidelines that are marked on the product container.

CREW, EQUIPMENT, MATERIAL, PPE

CREW SIZE:
1 Operator I
3 ROW workers

EQUIPMENT:

DESCRIPTION	EQUIP. NO
F-550 truck	838
3 weed cutters	
3 leaf blowers	

PPE:
safety glasses
ear protection

MATERIAL:
None

EQUIPMENT CLEAN UP/CLEAN UP PROCEDURES

Clean any equipment in the equipment cleaning area. All debris and garbage is to be disposed of properly in the dumpster.

PRODUCTIVITY	WORK UNIT
½ MILE	MILES PER DAY

PERFORMANCE STANDARD

ACTIVITY: Large Mower

ACTIVITY CODE: 241

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Mow the vegetation in the retention/detention basins and along the R.O.W.

WORK METHOD

Place the mower deck approximately 12 inches off the ground.
Turn the mower blades on.
Proceed to mow using caution to identify obstructions that could be damaged by the mower.

CREW, EQUIPMENT, MATERIAL, PPE	CLEAN-UP PROCEDURES
CREW SIZE: 1 man	Wash the equipment used in the designated wash-out areas.
EQUIPMENT: DESCRIPTION — EQUIP. NO tractor mower — 9701	
PPE: safety shoes	
MATERIAL:	

PRODUCTIVITY	WORK UNIT
4 miles	per day

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY: SALT STORAGE CLEANUP**	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 01/02/2014

APPROVED BY:

_____

Department Director or Division Head

PERMIT REQUIREMENT SUMMARY:

4.2.6.4.5 Protect storm drains from salt pollutants as a result of snow removal activities.

TARGETED POLLUTANTS OR HAZARDS:

ROAD SALT

A. PURPOSE/DESCRIPTION:

1. To keep the salt storage area clean to prevent it from flowing into the storm drain.

B. WORK PROCEDURES:

1. During a snow event keep salt inside the salt storage bin as much as possible
2. When loading a truck any salt that falls off truck is pushed back into salt bin
3. When snow event is done and when weather permits sweep the loading area with a clean sweeper
4. Dump salt picked up from sweeper back into salt bin.

C. CREW MEMBERS INVOLVED:

1. All on snow removal

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) None

E. EQUIPMENT CLEANUP PROCEDURES:

1. When snow event is done clean all salt trucks and loader in designated cleanup area at Public Works Shop Yard to prevent salt from entering storm drain.

F. FORMS AND DOCUMENTATION:

1. N/A

PERFORMANCE STANDARD

ACTIVITY: Snow Removal

ACTIVITY CODE: 226

EFFECTIVE DATE: 1/25/2012

DESCRIPTION AND PURPOSE:
To remove snow and Ice from city streets

WORK METHOD
Plow and salt city streets until they are clear of snow or ice.

CREW, EQUIPMENT, MATERIAL, PPE	CLEAN-UP PROCEDURES
CREW SIZE: 27	Dump remaining salt from truck into salt storage area scrape any salt that is collecting on truck in areas that dumping wont allow salt to fall off truck. When truck is scraped take to clean out area and wash the truck with water in cleanout area When all trucks are cleaned use loader to pick up any bulk salt in clean out area put in salt storage bin. Sweep clean out area and dump in sweepings bin.
EQUIPMENT: DESCRIPTION / EQUIP. NO Plow trucks / All trucks with plows	
PPE:	
MATERIAL: Salt or brine	

PRODUCTIVITY	WORK UNIT

PERFORMANCE STANDARD

ACTIVITY: Hauling snow

ACTIVITY CODE: 226

EFFECTIVE DATE: 1/15/12

DESCRIPTION AND PURPOSE:
To clear snow from main roads when it snows enough to build up on the side of the road that there is no longer enough room to put future snow.

WORK METHOD:
Load snow into dump truck from side of road
Haul to UCCC overflow parking lot the dirt part of the parking lot.
The size of the crew will depend on the amount of snow that needs to be removed.

CREW, EQUIPMENT, MATERIAL, PPE

CREW SIZE:
2 to 6

EQUIPMENT:

DESCRIPTION	EQUIP. NO
Loader	793
10 wheelers	1096
Bobtails	1067

PPE:

MATERIAL:

CLEAN UP PROCEDURES

Wash out at shop cleanup area this is just snow so no special cleanup procedures.

PRODUCTIVITY	WORK UNIT

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF COMMUNITY PRESERVATION** **ACTIVITY:** **GRAFFITI REMOVAL**	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 01/02/2012
APPROVED BY: _____ Department Director or Division Head			
PERMIT REQUIREMENT SUMMARY: 4.2.6.4.5 Graffiti cleanup within the right-of-way of public roadways to maintain good curb appeal and remove all appearances of code violations as it relates to graffiti.		**TARGETED POLLUTANTS OR HAZARDS:** **SPRAY PAINT**	

A. PURPOSE/DESCRIPTION:

1. Proper procedures will be followed to remove all traces of graffiti on walls, fences and metals surfaces by using Taginator (biodegradable), Tagaway (biodegradable) or latex paint. Protect the storm drain system from potential pollutants during graffiti removal activities.

B. WORK PROCEDURES:

1. Locate nearest storm drain inlet and try to maintain a buffer distance of 100 feet from the inlet.
2. Where it is not possible to maintain the buffer distance, place bumpers at inlet to prevent any potential spill from entering the storm drain system.
3. Follow all safety recommendations from the manufacturer of the graffiti removal material and apply following manufacturer's recommendations.
4. Use spray equipment or rollers to apply the removal material.
5. Prevent removal materials from coming into contact with the ground.
6. If a spill occurs or removal material comes into contact with the ground, use sand, cat litter or other absorbent to pick up the spilled material. Sweep up absorbed materials into a proper container.
7. Cleanup spill area with water as needed.
8. Dispose of spoiled material at local landfill

C. CREW MEMBERS INVOLVED:

1. Graffiti Specialist

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) Gloves
   b) Eye protection
2. Taginator, Tagaway or Latex Paint
3. Rollers
4. Spray equipment
5. Water proof clothing

E. EQUIPMENT CLEANUP PROCEDURES:

1. Use water or paint thinner as directed by manufacturer to clean up application equipment.

F. FORMS AND DOCUMENTATION:

1. N/A

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** Pavement Marking	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 01/07/2014
APPROVED BY: _____ Department Director or Division Head			
PERMIT REQUIREMENT SUMMARY: 4.2.6.4.5 Provide an SOP for proper roadway and parking lot maintenance, including pavement marking.		**TARGETED POLLUTANTS OR HAZARDS:** Paint	

A. PURPOSE/DESCRIPTION:

1. To apply pavement markings (not including striping).

B. WORK PROCEDURES:

1. Identify storm drain inlets in proximity of marking location (if any) and block off any storm drain inlet structures within 20 feet of marking location
2. Implement traffic control plan as necessary to block off traffic from entering marking location
3. Clean area where marking is to be applied
4. Lay down template
5. Apply paint on template
6. **Spill Cleanup**
   a) If a spill occurs, stop paint from continuing to spill and contain the spill to prevent it from entering the storm drain
   b) Apply absorbents as appropriate to absorb spilled paint
   c) Apply water as necessary to cleanup any paint remnants and remove with absorbents
7. Remove template
8. Allow appropriate time to dry per manufacturer's recommendations
9. Remove traffic controls

C. CREW MEMBERS INVOLVED:

1. Painter(s)

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) Eye protection
   b) Proper clothing
2. Paint
3. Marking Templates

E. EQUIPMENT CLEANUP PROCEDURES:

1. Clean templates, rollers, brushes and/or sprayers and other equipment per recommendations from the manufacturer.

F. FORMS AND DOCUMENTATION:

1. Spill Response Incident Report (if Applicable)

PERFORMANCE STANDARD

ACTIVITY: Cleaning Grates/Silt Basins

ACTIVITY CODE: 263

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Clean the debris from thecity street grates as well as the debris from the large grates locatedat the retention/detention basins. Silt basins are to have the silt removed bi-annually.

WORK METHOD

1. If the debris is present on the grates, remove it and place it in the vehicle.
2. Dump the debris from the vehicle into the sweeping bin to be taken to the landfill at a later date.
3. Use the loader to remove the silt from the basin and place it in the truck and dispose of it at the landfill.

CREW, EQUIPMENT, MATERIAL, PPE

CREW SIZE: 2 men

EQUIPMENT:

DESCRIPTION	EQUIP. NO
loader	1122
pick up truck	1121
pitch fork	939
grab fork	
shovel	804

PPE:
safety shoes
gloves

MATERIAL:

CLEAN-UP PROCEDURES

Wash the equipment that is used in the a designated wash out area.

PRODUCTIVITY	WORK UNIT

PERFORMANCE STANDARD

ACTIVITY: Vactor Operations/Storm Drain Cleaning

ACTIVITY CODE: 262

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Clean storm drain boxes and pipes. As this is a maintenance program for the storm drains, on the event of a flood, this crew will be used in various ways with similar goals in mind.
The purpose and goal in cleaning the storm drains is to remove as much debris as possible in order to prevent any blockages from forming further down the pipes, and to improve the water quality in the overall storm water system.

WORK METHOD

1. Clean and remove storm drain lid/inlet cover
2. Clean silt and or debris from the bottom of the box.
3. Jet wash the pipe up stream to the next lid or inlet box.

*If entering a storm drain is required to clean the box, follow the WVC confined space policy before doing so.

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN-UP PROCEDURES
CREW SIZE: 2 man crew Operator I-III	1. Dump all water into the de-silting bins. 2. After dumping the water, proceed to the sweepings bin and fully dump any/all solids from the hopper. 3. Proceed to the approved wash area in order to wash the inside of the hopper and also the outside of the vehicle.
EQUIPMENT: DESCRIPTION — EQUIP. NO 1 vacuum truck — 797-911-1045 1 manhole lid puller	
PPE: safety glasses hard hat safety shoes ear protection	
MATERIAL:	

PRODUCTIVITY	WORK UNIT
45-55 boxes	boxes per day

PERFORMANCE STANDARD

ACTIVITY: Rodding Storm Drains

ACTIVITY CODE: 262

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Cutting tree roots out from the inside of the storm drain pipes. This allows for better water flow and eliminates pipe blockages. This will help to establish a more accurate “possible flooding area” list.

WORK METHOD

1. Clean and remove lid/inlet to box
2. Start root auger into pipe traveling up stream
3. One person must stay with rodder at all times while the other person waits for the rodder to arrive at the next box.
4. If rodder can't make it all the way through, pull it back, clean the roots off the corkscrew end, and start the process over again until the rodder comes out clean.

5. If someone must enter the box for any reason, he/she must follow the WVC confined space policy before they do so.

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN UP PROCEDURES

CREW SIZE:

2 men, both Operator I's

EQUIPMENT:

DESCRIPTION	EQUIP. NO
1 ton truck	1121-1122
1 rod trailer	912
vactor/jet wash w/root cutter	797-911-1045

PPE:
safety glasses
safety shoes
ear protection

MATERIAL:
None

PRODUCTIVITY	WORK UNIT
150'-300'	feet per day

PERFORMANCE STANDARD

ACTIVITY: Ditch Cleaning

ACTIVITY CODE: 264

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Clean the ditches of debris that would cause the ditch to flood. The ditches are to be inspeted annually as per state requirements. This cleaning is to be performed as necessary.

WORK METHOD

Use the backhoe to remove obstructions from the ditch.

Place the debris in back of a vehicle and dispose of it at the landfill.

CREW, EQUIPMENT, MATERIAL, PPE

CREW SIZE: 2 or more men

EQUIPMENT:

DESCRIPTION	EQUIP. NO
backhoe	9601
dump truck	804
pick up truck	1121
shovel	1122

PPE:

hard hat

gloves

safety shoes

MATERIAL:

CLEAN-UP PROCEDURES

Wash the equipment used in the designated wash-out areas.

PRODUCTIVITY	WORK UNIT

PERFORMANCE STANDARD

ACTIVITY: Storm Drain Basins

ACTIVITY CODE: 263

EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Keep basins free of debris and weeds. This allows better water flow at all times and also adds a pleasing, aesthetic look to the City.

WORK METHOD

1. Clean the trash from the storm drain basins and haul it away.
2. Cut the weeds around the storm drain basins and haul them away.
3. Trim the trees if necessary and haul the limbs away.

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN UP/CLEAN UP PROCEDURES
CREW SIZE: 1 Operator I 3 row workers	All debris is to be dumped into the sweepings bin and taken to the landfill as is necessary.
EQUIPMENT: DESCRIPTION / EQUIP. NO F-550 truck / 838 3 weed cutters 3 leaf blowers	
PPE: safety glasses ear protection	
MATERIAL: None	

PRODUCTIVITY	WORK UNIT
2 BASINS	BASINS PER DAY

PERFORMANCE STANDARD

ACTIVITY: Garbage can delivery/Cleaning

ACTIVITY CODE: 400

EFFECTIVE DATE: 12/2/2013

DESCRIPTION AND PURPOSE:

Deal with garbage can deliveries and pick ups for West Valley City residents.
Occasionally assist with in-office work, including answering phones, etc.
Take inventory of all containers.

WORK METHOD:

1. Unload and stack newly delivered cans.
2. Build cans by unstacking each can, tipping it over, and applying a lid, two wheels, and any needed hardware.
3. Get work orders for the day from the office.
4. After delivering cans, replacing broken or missing cans, and picking up extra cans, return to the yard.
5. Clean reusable cont. in cleanout area, take all broken cont. to Waste Management.

CREW, EQUIPMENT, MATERIAL, PPE	EQUIPMENT CLEAN UP PROCEDURES:
CREW SIZE: 1 man	All garbage cont. removed from the truck or the broken containers brought in on the truck must be disposed of by having waste management stop by a dump the containers. once dumped deliver the broken cont. to Waste Management. All cans that go back into inventory must be cleaned by using the pressure washer in the sweeper clean out area before redelivering.
EQUIPMENT: DESCRIPTION / EQUIP. NO truck / 751097	
PPE: safety vest reflective coat Safety Glasses Rubber gloves	**Hazard assessment** There could be hazardous materials in the container, that is why we have them dumped prior to cleaning and cleaned in the designated cleaning area with all PPE's in place.
MATERIAL: garbage cans, green and blue surplus lids, wheels, end caps, cotter pins, washers	

PRODUCTIVITY	WORK UNIT
20-40 cans	cans moved in a day

PERFORMANCE STANDARD	ACTIVITY: Operations & Maintenance Site Inspection ACTIVITY CODE: EFFECTIVE DATE:

DESCRIPTION AND PURPOSE:

Provide comprehensive visual inspection for high-priority city owned facilities. Record weekly the observations made, with a full UPDES feport done quarterly. Quarterly water samples will be taken and documented.

WORK METHOD

1. Walk site and look for oil spills, debris and any pollutants that might enter the storm drain system.
2. Make list of any items and clean up debris and/or spills.

CREW, EQUIPMENT, MATERIAL, PPE	CLEAN-UP PROCEDURES
CREW SIZE: 1-2 men	Walk through the entire outside maintenance areas and look for any evidence of the following: 1. Any ol/contaminants from the equipment 2. Trash/debris 3. Chemical containers and/or material bags left outside 4. unobstructed containment bins 5. BMP maintenance
EQUIPMENT: DESCRIPTION EQUIP. NO	
PPE:	
MATERIAL:	

PRODUCTIVITY	WORK UNIT

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** Disposal of Waste	**SOP NUMBER OR ACTIVITY CODE:**	**ISSUE DATE:** 04/23/2014
APPROVED BY: _____ Department Director or Division Head			
PERMIT REQUIREMENT SUMMARY: 4.2.6.4.6 Develop and ensure proper disposal methods of all waste and wastewater are used in operations activities (sweeping, storm drain system cleaning).		**TARGETED POLLUTANTS OR HAZARDS:** Organic matter, debris and suspended solids	

A. PURPOSE/DESCRIPTION:

1. Properly dispose of waste accumulated through street sweeping and storm drain system cleaning activities.

B. WORK PROCEDURES:

1. Use filter fabric to cover and protect storm drain inlet closest to the sweeping bins.
2. Use front end loader to pick, up material and place it in the back of the dump truck.
3. Dump truck driver checks bed rails to make sure no debris will fall out.
4. Dump truck driver unrolls bed tarp to cover load to eliminate any debris from blowing out.
5. Driver takes load to landfill, dumps load and returns to shop for another load of material.
6. At the end of shift, driver proceeds to designated wash area to clean dump truck.
7. Sweep area in front of sweepings bin.
8. Remove filter fabric from storm drain inlet.

C. CREW MEMBERS INVOLVED:

1. 1 front end loader driver
2. 1 dump truck driver

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) Work gloves
   b) Work shoes
2. Dump truck
3. Front end loader
4. Filter fabric

E. EQUIPMENT CLEANUP PROCEDURES:

1. Drive dump truck to designated cleaning area.
2. Wash out dump truck bed into cleanout bins.

F. FORMS AND DOCUMENTATION:

1. Log loads delivered to landfill.

	STANDARD OPERATING PROCEDURE **DEPARTMENT OF PUBLIC WORKS** **ACTIVITY:** Winter Snow and Ice Melt Application	**SOP NUMBER OR ACTIVITY CODE:** A104	**ISSUE DATE:** 12/04/2010

APPROVED BY:

___Hagop Arslanian Sr._____
Department Director or Division Head

PERMIT REQUIREMENT SUMMARY:

Summary of Activity Requires that activities involving the operations and maintenance of City owned facilities, including, but not limited to; Sidewalk Snow removal and De-Icing, sweeping and plowing, have procedures in place to reduce pollutants and debris from entering the storm drain system.

TARGETED POLLUTANTS OR HAZARDS:

ICE MELT (SNOW PLOW)

A. PURPOSE/DESCRIPTION:

1. Apply Snow and Ice Melt to make sidewalks safe from slips and falls.

B. WORK PROCEDURES:

1. Remove snow from sidewalks and inspect for Ice
2. If ice is apparent apply thin layer of ice melt according to the manufacturer's recommendation as noted on the product label
3. Follow the SDS sheet on all products used for snow and ice removal and deicing
4. If the temperature is above freezing do not apply ice melt
5. Always store ice melt in the designated area inside the garage
6. Always apply as minimum amount of ice melt to the walks and as needed
7. As the weather permits and the temperature is rising sweep access ice melt and dispose of properly
8. Always keep ice melt in designated covered containers

C. CREW MEMBERS INVOLVED:

1. Public Works Facilities Maintenance
2. Facilities Custodial Crew

D. EQUIPMENT (IF APPLICABLE):

1. Personal Protective Equipment:
   a) Gloves
   b) Goggles
   c) Hats
   d) Winter gear
   e) Ear protection
2. Applicator's and Plows
   a) Snow Plows
   b) Snow Shovels
   c) Ice melt Applicator's

E. EQUIPMENT CLEANUP PROCEDURES:

1. Always keep snow removal equipment in the designated area in the Garage
2. Wash down equipment after each use in the designated wash area in the garage
3. Inspect equipment after each use for any damage and leaks and report to supervisor
4. Send equipment to the City Fleet Maintenance shop for repairs
5. Inspect all ice melt spreaders and calibrate gages once a year for proper operation and ratio
6. After each use wash Ice melt spreaders in the designated area in the garage
7. Always sweep storage area clean and free of any spills and contamination

F. FORMS AND DOCUMENTATION:

1. Have a training on Storm Water Pollution Prevention at least once a year
2. Report any and all spills to your supervisor immediately
3. Keep a cleaning and maintenance logs on all equipment
4. Be proactive in the prevention/pollution program.

Spill Response Escalation Protocol

- Person infield notices spill
- Person tries to contain to the best of ability
- Person notifies Darin Burke (Storm Water Supervisor)
    - If Storm Water Supervisor is unavailable, notify Jeff Nosack (Operations Manager)
- Supervisor or Manager contacts Randy Peterson (Industrial Storm Water Coordinator)
- Supervisor/Manager with the help of the Coordinator determine proper way to cleanup and dispose of material
    - If material is unknown and/or hazardous, WVCFD and/or Salt Lake Health Dept is notified and handed over to responsible party for proper containment and disposal

Hazardous Materials SOG Index

HM 001 Haz Mat Response Command Considerations
HM 002 Haz Mat Response Special Considerations 1st Responders
HM 003 Haz Mat Response Suspicious Envelopes/Packages/Containers
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HM 005 Haz Mat Response Officers and Team Leaders
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HM 007 Haz Mat Response Safety Officer
HM 008 Haz Mat Response Liaison Officer
HM 009 Haz Mat Response Research
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HM 011 Haz Mat Response Entry/Backup Team
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HM 016 Haz Mat Response Medical Group
HM 017 Meth Lab Response
HM 018 Anthrax Tactical Response Plan
HM 019 Empty
HM 020 Empty
HM 021 Exposure Control Reporting of Infectious Disease and Chemical Contaminates

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Command Considerations	HM 001
	Rev. 12/08

This plan provides a basic philosophy and strategic plan for hazardous materials situations. All West Valley City Fire Department Standard Operating Guidelines, unless superseded by a specific part of this plan, remain in effect for Hazardous Materials incidents.

Hazardous Materials incidents encompass a wide variety of potential situations including fires, spills, transportation accidents, chemical reactions, explosions and similar events. Hazards involved may include toxicity, flammability, radiological exposure, corrosives, explosives, health, and chemical reactions or a combination of factors. This plan provides a general framework for handling a hazardous materials incident, but does not address the specific tactics or control measures for particular incidents.

Every incident presents the potential for exposure to hazardous materials; even the products of combustion of an ordinary fire may present severe hazards to personnel safety.

This procedure is specifically applicable to known hazardous materials incidents, but it does not reduce the need for appropriate safety precautions at every incident. The use of full protective clothing and SCBA as well as special protective clothing and the use of all Standard Operating Procedures on a continuing basis are foundational for this plan.

DISPATCH

The dispatch Center will obtain any and all possible information from the person reporting a hazardous materials incident. The information should, if possible, contain material name and/or type, amount and size of the container(s), problem (leak, spill, fire, etc.), and dangerous properties of the materials as well as the number of persons injured or exposed. The incident taker will remain on the telephone with the caller to obtain additional information after entering the call for dispatch.

Any additional information shall be relayed to responding units after dispatch. This should include the safest approach or best access to the incident if available.

If the call comes from a person with particular knowledge of the hazardous situation, that person should be instructed to meet and direct the arriving units. Dispatch shall relay that person's location and level of knowledge to responding units. The dispatch will dispatch the appropriate Hazardous materials response.

Dispatch will inform units as to the prevailing wind speed and direction from the monitoring station nearest the incident and advise responding units.

FIRST ARRIVING UNIT

The first arriving officer will establish Command and begin a size-up. The first unit must consciously avoid committing itself to a dangerous situation. When approaching, slow down or stop to assess any visible activity taking place. Evaluate effects of wind, topography and location of the situation. Route any other responding companies away from any hazards.

Command should consider establishing level II staging whenever possible for other responding units. Staged companies must be in a safe location, taking into account wind, spill flow, explosion potential and similar factors in any situation. The DOT Guidebook, NFPA reference materials, NIOSH pocket guide, or any other material such as MSDS or shipping papers available should be used to establish a safe distance for staging.

SIZE-UP

Command must make a careful size-up before making a commitment. Such size-up should be based on dispatch information, observation, reconnaissance, and any preplanning that is available. It may be necessary to take immediate action to make a rescue or evacuate an area. This should be attempted only after a risk/benefit analysis is completed. Personnel must take advantage of personal protective equipment in these situations.

The objective of the size-up is to identify the nature and severity of the immediate problem and to gather sufficient information to formulate a valid action plan. Hazardous materials incidents require a cautious and deliberate size-up.

Avoid premature commitment of companies and personnel to potentially hazardous locations. Proceed with caution in evaluating risks before formulating a plan and keep uncommitted companies at a distance. In many cases, evaluation by hazardous materials team members before committing is the safest approach.

Identify a hazardous area based on potential danger, taking into account materials involved, time of day, wind and weather conditions, location of the incident and degree of risk to unprotected personnel. Take immediate action to evacuate and/or rescue persons in critical danger, if possible, providing for safety of rescuers first.

The primary objective is to identify the type of materials involved in the situation, and the hazards presented, before formulating a plan of action. Look for labels, markers, DOT identification numbers, NFPA diamond or shipping papers, etc. Refer to pre-fire plans, and personnel at the scene for additional information (plant management, responsible party, truck drivers, and fire department specialists). Use reference materials carried on apparatus and have dispatch contact other sources for assistance in sizing-up the problem (state agencies, fire department specialists, manufacturers of materials, etc.).

ACTION PLAN

Based on the initial size-up and any information available, Command will formulate an action plan

to deal with the situation.

The Action Plan Must Provide For:

- Isolation of the area (using tape to create zones)
- Securing the area (with PD if possible)
- Evacuation (of cold zone as necessary)
- Rescue victims (while avoiding exposures)
- Treat patients (after initial decon)
- Protect exposures (property/environment)
- Provide for the safety of all (responders and citizens)

Most hazardous materials are intended to be maintained in a safe condition for handling and use through confinement in a container or protective system. The emergency is usually related to the material escaping from the protective container or system and creating a hazard on the exterior. The strategic plan must include a method to control the flow or release, get the hazardous material back into a safe container, neutralize it, allow it to dissipate safely, or coordinate proper disposal.

The specific action plan must identify the hazard control and identify the resources necessary to accomplish this goal. It may be necessary to select one method over another due to the unavailability of a particular resource or to adopt a 'holding action' to wait for needed equipment or supplies.

Avoid committing personnel and equipment prematurely or 'experimenting' with techniques and tactics. Many times it is necessary to evacuate and wait for special equipment or technical help.

As a general policy, the Hazardous Materials Team will respond to any situation where a private contractor is required to clean up hazardous materials.

CONTROL OF HAZARDOUS AREA

A hazardous material incident has two initial zones associated with the scene, similar to a fire. They are the WARM ZONE and the COLD ZONE.

WARM ZONE

The Warm Zone is the area in which personnel are potentially in immediate danger from the hazardous condition. This is established by Command and controlled by the fire department. Access to this area will be rigidly controlled and only personnel with proper protective equipment and an assigned activity will enter. All companies will remain in tact in designated staging areas until assigned. Personnel will be assigned to monitor entry and exit of all personnel from the Warm Zone. The Warm Zone should be geographically described to all responding units, if possible and identified by yellow fire line tape. (A Lobby Control Division or Group will be established to control access to the Warm Zone and maintain an awareness of which personnel are working in the area.)

- Establish a safe perimeter around hazardous area and identify with Hazard Zone tape.
- Request adequate assistance to maintain the perimeter.
- Identify an entrance/exit point and inform Command of its location.

- Coordinate with Haz-Mat Group to identify required level of protection for personnel operating the Hazard Zone.
- Collect/return accountability PASSPORTS of all companies entering/leaving the controlled area.

Restriction of personnel access into the Warm Zone includes not only fire department personnel, but any others who may wish to enter the Warm Zone (Police, press, employees, tow truck drivers, ambulance personnel, etc.). Command is responsible for everyone's safety.

COLD ZONE (EVACUATION ZONE)

The Cold Zone is the larger area surrounding the Warm Zone in which a lesser degree of risk to personnel exists. All civilians would be removed from this area, which is used by fire department personnel to establish a hazardous materials operation. The limits of this zone will be enforced by the police department based on distances and directions established in consultation with Command. The area to be evacuated depends on the nature and the amount of the material and type of risk it presents to unprotected personnel (toxic, explosive, etc.).

In some cases, it is necessary to completely evacuate a radius around the site for a certain distance (i.e., potential explosion). In other cases, it may be advisable to evacuate a path downwind where toxic or flammable vapors may be carried (and control ignition sources in case of flammable vapors).

Reference: Evacuation Group, Police Liaison Officer.

NOTE: When toxic or irritant vapors are being carried downwind, it may be most effective to, (shelter in place), keep everyone indoors with windows and doors closed to prevent contact with material instead of evacuating the area. In these cases, companies will be assigned to patrol the area assisting citizens in shutting down ventilation systems and evacuating persons with susceptibility to respiratory problems.

In all cases, the responsibility for safety of all potentially endangered citizens rests with Command. Once the Hazardous Materials Group has been established, Haz-Mat personnel will define a Hot Zone and re-establish Warm and Cold Zones as needed. These zones will remain in effect for the remainder of the incident unless circumstances dictate further adjustments.

USE OF NON-FIRE DEPARTMENT PERSONNEL

In some cases, it may be advantageous to use non-fire department personnel to evaluate hazards and perform certain functions within their area of expertise. When such personnel are outfitted with breathing apparatus, chemical suits, etc., they must be aware of the functions, limitations and safety precautions necessary in their use. Fire department personnel with the necessary protective equipment must closely monitor and/or accompany such personnel for safety.

BE AWARE THAT COMMAND IS RESPONSIBLE FOR THE SAFETY OF ALL PERSONNEL INVOLVED IN ANY INCIDENT.

COMMAND

At any working hazardous materials incident, Command should be passed to the on-duty Battalion Chief or Shift Commander. Before taking command, this officer should also perform size-up (based on dispatch information, radio traffic, observation, reconnaissance and any available preplanning). Once Command has been transferred, this officer must perform the following on-going functions until the incident has been stabilized:

- Provide for on-going size-up
- Update and adjust the plan as required
- Expand the organization as needed (provide for branches and divisions)
- Establish a hazardous materials branch or division for all working incidents
- Acquire continuing progress reports
- Acquire and coordinate resources (make necessary notifications)
- Make assignments (to achieve goals and support the plan)
- Provide for a safety officer (to continually monitor the scene and provide feedback for Command)
- Consider a separate TAC Channel for Haz-Mat Operations.

During the course of the incident, the Incident Commander (along with the Support Officer) should fill out the appropriate tactical checklists and worksheets so that all applicable considerations can be made and to properly document the response efforts.

Once the incident has been stabilized, the Incident command will identify the requirements for clean-up (based on consultation with City, County, and State rules and regulations). These requirements shall be given to the responsible party and used as the basis for a clean-up plan to be completed by a licensed contractor. Such completion shall be monitored by Fire Prevention.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Special Considerations for First Responders	HM 002
	Rev. 12/08

GENERAL FACTORS TO CONSIDER

Due to the wide variety of situations fire department personnel may encounter in dealing with hazardous materials, these considerations will not attempt to provide specific guidelines on any one individual chemical or situation and are not listed in any priority.

It is important that the first arriving fire department company make every effort to determine what hazardous material(s) is involved, and the amount prior to taking action to stabilize the incident.

Call for additional resources early. The actions taken by Command in the first few minutes of the incident affects the outcome more than any other single factor. Hazardous Materials teams will be needed as well as a number of other fire companies to support site operations. Make a slow, cautious approach to the incident. Entering the scene to make positive identification may be a considerable risk. The danger of explosion, leaking gas and poisoning may be great. Furthermore, any "Knee-jerk" action taken prior to determining the product involved may place firefighters at a considerable safety risk and may further compound the problem.

Transportation emergencies are often more difficult than those at fixed locations. The materials involved may be unknown, warning signs may not be visible or obscured by smoke and debris, the driver may be killed or missing. DOT hazardous materials marking systems are inadequate because some hazardous materials in quantities up to 1,000 lbs., do not require a placard and there may be combinations of products involved with only a "dangerous" label showing. Sometimes only the most evident hazard is identified, while additional hazards are not labeled.

The following items should be considered at any hazardous materials incident. (Not all will be significant at any particular incident.)

- Cooling Containers - Flame Impingement
  a. Obtain adequate water supply, use large GPM hose streams or stung guns.
  b. Apply heavy streams to the vapor space area above the tanks liquid line.
  c. Use unmanned streams.
  d. Use natural barriers to protect personnel.
- Remove Uninvolved Materials
  a. These actions should only be done after a complete site safety plan has been established by Command and the H.I.R.T. Officers.
  b. Move individual containers.
  c. Move tank cars away from flame.
  d. Cool containers before moving.

- Stop the Leak
  a. Use water spray to approach leak.
  b. Close valves when safe to do so.
  c. Do not apply water to chlorine containers - it will make the leak worse.
- Apply Diluting Spray or Neutralizing Agent
  a. Dilute water-soluble liquids, such as ammonia, chlorine, LPG (No water on CL2 tanks).
  b. Use water with caution on some materials.
- Construct Dams, Dikes or Channels
  a. Direct running liquid away from exposures.
  b. Control run off from corrosive or toxic materials.
  c. Use sand or dirt.
  d. Keep product out of sewers, storm systems, canals, or other waterways, etc.
- Remove Ignition Sources
  a. Start down wind.
  b. Eliminate all sources of heat, spark, and friction.
  c. These actions may need to be accomplished in conjunction with the proper technical advice.

Dispatch has a Reference List of personnel and organizations which may be helpful during Hazardous Materials Emergency. These include:

- Fire department personnel with particular experience or knowledge.
- Authorities in charge of landfills and dumps where Hazardous Materials may be disposed.
- Commercial chemical experts with experience in handling and disposing of most common chemicals.
- Pesticide consultants and disposal teams with equipment to clean up agricultural chemical spills.
- Personnel from state and federal regulatory agencies. These personnel should be contacted for incidents involving transportation of Hazardous Materials.
- Railroad information numbers.
- Tank truck companies with de-fueling capability (in case carrier involved in incident has none).
- Radioactivity and military weapons emergency contacts.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Emergency Response to Suspicious Envelopes/Packages/Containers	HM 003
	Rev. 1/09

SCOPE

The first arriving police officer or fire unit will follow these steps when responding to an unidentified or suspicious envelope, package, or container:

- Have dispatch ask caller to meet officer outside at the entrance to the facility or building, without the package.
- Have caller describe suspicious envelope, package, or container.
- Have caller answer questions attached to this protocol. If the answers to the questions indicate that the threat may be real, the officer is to call for assistance. That assistance will include a police supervisor, a fire supervisor, Haz-mat and/or bomb response.
- If the envelope, package, or container has been opened and the described contents indicate a potential threat, the officer is to call for assistance.
- If assistance is being requested, the officer shall give access and staging directions for all responders.
- If evacuation is indicated, the officer shall consult with his or her supervisor prior to initiating such action with the responsible part at the scene.
- Any person or persons that have been potentially exposed to a chemical or biological agent should be kept in an isolated area away from all other employees or citizens.
- The officer should avoid all potential exposures by maintaining the proper distance from the building and from potentially exposed individuals.

WMD THREAT/HAZARD RISK ASSESSMENT

- What type of package has been sent, why is it suspicious?
- Is the package leaking or covered with an unknown material?
- Has the person been threatened, i.e., did letter or package contain a threat?
- Has person threatened before?
- Obtain all information available from package;
    a) Return address
    b) Postmarking_____
    c) Was the mail expected?
- Conduct logical checks to determine the validity of the mail
- Contact sender, explain what you have, ask for explanation for the substance in the package.
- Has anything happened previously at the residence or business?

- What does the business do?
- For additional assistance contact the FBI (801-579-1400)
- For additional assistance contact the Health Department (801-538-6191)

NOTES:

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WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Hazardous Materials Division	HM 004
	Rev. 1/09

The Hazardous Materials Division is a functional division, which may need to be supported by geographical or other functional divisions. In conjunction with the Incident Commander, the plan and objectives will be put together for the Hazardous Materials Division. Some pre-determined objectives for a Haz-Mat division are:

- Monitor zones
- Rescue victims (remove bodies or mark bodies)
- Stabilize chemical reactions
- Stop leaks and control spills
- Decontaminate people and equipment
- Treat patients
- Supervise cleanup and disposal of hazardous waste (by a qualified contractor)

RESPONSE

During response and based on information from dispatch or the field, Haz-Mat team members will begin the research process. This process will begin the search for chemical information and the review of any available pre-plan or target hazard information on the facility where the chemical accident has occurred. If possible, the Haz-Mat team should acquire a weather report prior to arrival at the incident. Such a report should be compared to actual arrival conditions at the scene. Response of Metro Haz-Mat Teams should be considered.

ARRIVAL

Upon arrival, the Haz-Mat team officer should stage all Haz-Mat apparatus based on all standard operating guidelines. This officer should then report to the Incident Commander to be briefed and to receive directions from the Incident Commander. The briefing (and discussion) should include, but not be limited to, the following factors:

- Nature of accidental spill or release
- Rescue or recovery profile
- Potential for more exposure to employees, responders, and citizens
- Need for further evacuations
- Need for establishing or changing security zones
- Resources at the scene or on the way
- Actions taken by the Incident Commander
- Objectives and tasks for the Haz-Mat team
- Designation of the Haz-Mat Division Supervisor

INITIAL PLANNING AND ORGANIZATION

After leaving the command post, the Haz-Mat Division/Group Officer (as determined by the IC) will proceed to direct the team to the area from which they will establish and operate the Hazardous Materials Division. If this division is to operate within or in conjunction with other divisions, the Haz-Mat division supervisor will communicate and coordinate with these divisions.

Upon arriving in the appropriate area, the Haz-Mat Division Supervisor in conjunction with other team members will formulate an action plan for the division. This plan will address any objectives and tasks that are needed to mitigate the chemical impact of the release or spill.

The Hazardous Materials Division has many areas of activity that need to become part of the organizational approach to the event in order to accomplish identified objectives. Such areas of activity would include:

- Site control (via established zones and security)
- Research (chemicals, processes, facilities, neighboring occupancies)
- Communications (inside/outside the sector)
- Support (protective clothing, monitoring devices, equipment tools, and spill control materials)
- Entry Team
- Back-up Team
- Safety
- Decontamination Team
- Medical Team
- Cleanup and disposal
- Documentation (Site safety plan and incident action plan)

If the incident is large enough, the Hazardous Materials Division should become a branch. At times it is more practical to operate certain activities (i.e., decon and medical) as divisions within the Haz-Mat branch.

After the action plan and organization have been developed for the Haz-Mat team, the Division Supervisor should take the plan to the Incident Commander for approval. It is critical that the Haz-Mat plan fit with the overall plan for the incident. The Haz-Mat group or team should never operate isolated or removed from the rest of the operation. At times it may be necessary for Command to appoint a Liaison Officer for the Hazardous Materials Division. This individual will facilitate communications between Command and the Hazardous Materials Division supervisor. This allows Command to keep abreast of changes within the division so plans can be adjusted and resources properly deployed.

No part of the Haz-Mat action plan should be implemented until all areas of activity are established and ready to proceed. This includes being able to communicate with each other. It is the responsibility of the Haz-Mat division supervisor to coordinate all division activities, and all activities must be monitored by the Safety Officer.

MANAGING THE DIVISION

Site Control Team:
The Site Control Team has the responsibility to establish or re-establish zones based on monitoring the affected area. They are also responsible to establish access points and lobby control for the division. All monitoring must be done in full protective (or chemical) clothing.

Research Team:
The Research Team is responsible for evaluating research material about the chemicals that have created a potentially dangerous situation. A good research effort produces good information and eliminates costly mistakes in judgment or decision making. Such research must have a check and balance system that causes each chemical to undergo cross-referencing so that contradictory data can be identified. As the research identifies the hazardous characteristics of specific chemicals, recommendations can be made as to the protective clothing, monitoring equipment, tools, spill control materials, stabilization methods, and decontamination procedures case is made.

Communications Team:
The Communications Team is responsible for accessing data bases, chemical and toxicology consultants, and outside agencies or private companies. It is also responsible for facilitating communications within the team and with Command.

Support Team:
The Support Team has two basic functions. One function is to provide the current protective clothing and communications equipment for the entry and backup teams. The other function is to provide monitoring devices and any equipment or tools that might be needed for testing, neutralizing, or controlling the spill or leak.

Entry Team and Back-up Team:
The Entry and Back-up Team includes those that will directly work in the Hot Zone or chemical environment plus a back-up team for rescue. All team members that enter of may enter the Hot Zone must be medically evaluated and properly dressed prior to entering potentially hostile surroundings. Entry and Back-up teams should give constant progress reports while in the Hot Zone and will be monitored by lobby control and the Division Safety Officer. If the Entry Team is utilizing an action plan that becomes dysfunctional, they should leave the area, and the plan should be revised. Good communications between the Entry and Back-up team and the Division Supervisor are critical.

Decontamination Team:
The Decontamination Team must be ready to perform decontamination prior to the entry team being allowed to enter a hazardous area. This team should always be in a state of readiness once they have set-up in the Warm Zone. All personnel, patients, and equipment must be decontaminated prior to leaving the Warm Zone. Any equipment or materials that cannot be decontaminated must be left in the Warm Zone to be disposed of as hazardous waste. Any patients who cannot be decontaminated must be packaged so as to contain any contaminated items.

Upon leaving the Warm Zone, personnel should either proceed to the rehab or medical area. The medical treatment area should be manned by paramedics (preferably by those with toxicology training). As patients enter the treatment area, they should be segregated in terms of the seriousness

of their condition. Should any patient pose a contamination threat, all extrication and transportation personnel must be in protective clothing, and hospitals must be notified that they are receiving contaminated patients.

Documentation Team:
This team will be responsible for completing a site safety plan and an incident action plan. They will also be responsible for documenting times the entry teams are on air, entering and exiting the hot zone, and time off air. Post operations, the documentation team will account for all equipment used and submit to administration an itemized list for billing purposes and cost recovery.

SUMMARY

After the emergency has been eliminated, it is the responsibility of Command and the Haz-Mat team to make arrangements for the clean-up, removal, and proper disposal of hazardous waste. The clean-up and disposal of hazardous waste should be undertaken by a reputable, licensed contractor. This reduces exposure potential for responders and reduces the legal liability for the responsible party and the response agencies.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Officers and Team Leaders	HM 005
	Rev. 02/09

This SOG is a companion guideline to The Hazardous Materials Division (which identifies the operating guidelines for managing a hazardous materials branch, division or group). The intent of this SOG is to describe the responsibilities of each officer or team member who may be assigned to a key group or team at a hazardous materials incident.

HAZARDOUS MATERIALS DIVISION SUPERVISOR

The officer assigned to manage or supervise the Hazardous Materials Branch or Division must direct and coordinate all personnel and activities for the group. The primary responsibilities for this officer are:

- Planning (with Command and inside the branch or division)
- Establishing the appropriate divisions, groups, or teams;
  a) Site Control
  b) Research / Communications
  c) Equipment Support
  d) Entry / Back-up
  e) Decon
  f) Medical
  g) Rehab
  h) Clean-up
- Designating positions and giving assignments
- Monitoring progress
- Coordinating activities
- Communicating with Command and Haz-Mat personnel
- Make necessary adjustments to the plan, assignments, and resources.
- Terminate Division or Branch

SAFETY OFFICER

The Safety Officer is Responsible for the following measures:

- Develop and implement site specific safety plan Haz-Mat operation.
- Insure that all required divisions or groups are in place and functioning prior to start of the operation.
- Monitor all communications within Branch, Division, or Group.
- Insure all personnel entering the Hot Zone have been medically evaluated and properly dressed.
- Make sure that assignments and instructions for personnel entering the Hot Zone or working

in the Warm Zone include safety considerations.
- Record on-air times for all personnel in chemical protective clothing.
- Stop or change any unsafe actions.
- Assist the Division Supervisor with accountability.

LIAISON OFFICER

The Haz-Mat Liaison Officer will be utilized by Command to facilitate communications with the Hazardous Materials Branch, Division or Group. This position should be created when the hazardous materials operation is complex and/or very hazardous. Since the Haz-Mat Officer may be very involved, such a Liaison Officer will provide another communications link with Command that can maintain the flow of information in a timely and efficient manner. This Liaison position may also be used to work directly with outside agencies or individuals with technical experience who need to interact with Haz-Mat personnel.

SITE CONTROL OFFICER

The Site Control Officer is responsible for establishing or re-establishing zones. If zones have already been set up, they may have to be adjusted based upon a better understanding of the relative hazards. If zones have not been set up, they must be put in place. Whenever monitoring equipment or methods can be used to establish zones, such action should be taken. The Site Control Officer is responsible for monitoring and controlling all access points into and out of the Warm Zone and the Hot Zone. No one should be allowed into the Warm Zone without the proper level of protective clothing and an assignment. The Site Control Officer must insure that contaminants do not leave the Warm Zone.

RESEARCH/COMMUNICATIONS OFFICER

The Haz-Mat Research/ Communications Officer and his or her team are responsible for gathering, compiling, coordinating and disseminating all data and information relative to the incident. This data and information will be used within the Haz-Mat branch, division or group for evaluating risks, developing a plan, selecting protective clothing and determining control methods. When providing research support for the Haz-Mat team, the Research Officer will insure that:

- Each chemical is evaluated based on set criteria.
- That more than one reference is used for each individual chemical.
- That the worst case scenario is used when there are contradictions in the information.

The Research and communications functions must be put together to provide the necessary information to all concerned. It is the role of the communications function to disseminate all chemical and chemical process information to the Haz-mat Division Supervisor and Command. Members of the Research/Communications Team or Group may also be involved in providing updates to that information. Finally, the Communications Officer serves as the contact point between other response teams, private industry representatives, environmental agencies and medical advisors.

EQUIPMENT SUPPORT OFFICER

This officer provides for the logistical support of the Haz-Mat Team in the field. This officer or team leader supplies entry and back-up team members with protective clothing, communications equipment, monitoring devices, tools, and spill control materials. This logistical effort also applies to the decon and medical teams in terms of protective clothing, hazardous materials equipment and tools.

ENTRY AND BACK-UP TEAM OFFICER

The Entry Team Officer is the Hot Zone supervisor who directly controls the activities of team members in potentially dangerous situations. As such, this officer is responsible for all offensive and defensive actions to control and mitigate the actual or potential chemical release. This officer must coordinate operations between entry, back-up, medical and decon. He or she may also direct rescue operations within the Hot Zone. In case of an emergency, the task of the Back-up Team is to extract the Entry Team from the Hot Zone. The Back-up Team must be in place when the Entry Team Proceeds into the Hot Zone and will respond to any accident based upon orders from the Haz-Mat Group Officer.

DECONTAMINATION OFFICER

The Decon Officer and Team are responsible for applying decontamination methods to remove all the contaminants prior to anyone or anything leaving the Warm Zone. The Decon Officer is responsible for:

- Determining the proper level of decontamination to be provided.
- Ensure that proper protective clothing is being worn by decon methods.
- Ensure that proper decon procedures are being use by the Decon Team.
- Coordinate decon efforts with the Entry Team Officer and the Medical Officer. The Decon area must be established before anyone enters the Hot Zone.
- Control all personnel entering and leaving the Decon Area.

MEDICAL OFFICER

The Medical Officer and personnel assigned to this group are responsible to monitor all Entry Team and Back-up Team personnel before and after mitigating the hazardous materials release. The Medical Group or Team (like decon) must be in place prior to entry into the Hot Zone. The Medical Officer is responsible for treating the ill, injured, or chemically contaminated civilians or emergency response personnel.

CONCLUSIONS

A hazardous materials operation at the Branch, Division, or Group level requires a large number of qualified emergency response personnel. If the required number of qualified personnel is not available, Haz-Mat Officers and Team members may have to take on more than one role or position or may have to change roles or positions as the incident progresses. At times, it may be necessary to

place a qualified team member or officer with those that are less trained to oversee their activities in support efforts to sustain the activities of the Haz-Mat part of the overall operation. It is extremely important that the Haz-Mat Division Officer properly designate all the required areas of activity and all required supervisors before the Haz-Mat plan is implemented. All officers and team members must be properly informed as to the objectives and tasks they are required to carry out.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Division Supervisor	HM 006
	Rev. 02/09

This officer may be a Company Officer or Chief Officer. They may be in command of a branch, division, or group. This officer is responsible for planning, organizing and conducting excursions into a hot zone for the purpose of mitigating a hazardous materials release.

HAZARDOUS MATERIALS DIVISION SUPERVISOR

This officer, assigned by Command to manage or supervise the Hazardous Materials Team members, must direct and coordinate all personnel and activities within the confines of the warm and hot zones. The primary responsibilities of this officer are:

- Planning (with Command and inside the Branch, Division, or Group)
- Establish the appropriate organization units or teams.
  a) Site Control
  b) Research
  c) Communications
  d) Support
  e) Entry
  f) Back-up
  g) Safety
  h) Decon
  i) Medical
  j) Clean-up
- Designate positions
- Give assignments
- Monitor progress
- Coordinate activities
- Communicate with Command and Haz-Mat personnel
- Adjust plan, position, assignments, and resources as necessary
- Terminate operation

DIRECTION/COORDINATION/COMMUNICATION

When the Haz-Mat officer establishes each position to conduct the hazardous materials operation, he or she must consider the span of control at large or complex incidents. If the span is too great, this should lead to the creation of a branch or the separation of Decontamination and Medical from Haz-Mat by making them separate divisions or groups.

A hazardous materials operation potentially requires a large number of qualified technicians. If the required number of qualified emergency response personnel is not available, the Haz-Mat Officer must cause available trained personnel to take on more than one role or position or to change roles or positions as the incident progresses. At times, it may also be necessary to place an officer or a team member with those who are not adequately trained or have the necessary experience. In these situations, all personnel working with the Haz-Mat team must be closely supervised.

For any working hazardous materials incident, the Hazardous Materials Officer must properly designate all areas of activity as well as the required supervisor before the Haz-Mat plan is implemented. Thus, all elements must be in place prior to actions being taken. This includes briefing all officers and team members so that they understand the objectives to be obtained and the tasks to be performed.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Safety Officer	HM 007
	Rev. 02/09

SCOPE

The Hazardous Materials Safety Officer is in reality the Support Officer for the Hazardous Materials Officer. Any working hazardous materials incident should have a Safety Officer for the incident and a Safety Officer assigned to the Hazardous Materials Branch, Division, or Group. This officer will assist the officer in charge with all safety considerations during the course of the operation.

RESPONSIBILITIES

The Hazardous Materials Safety Officer is responsible for the following measures:

- Develop and implement a site safety plan for the Haz-Mat operation.
- Insure that all required divisions/groups, and personnel are in place and functioning prior to the start of the operation.
- Monitor all communications within the warm and hot zones.
- Insure that all personnel entering the hot zone have been medically evaluated and properly dressed.
- Make sure that assignments and instructions for personnel entering the hot zone or working in the warm zone include safety considerations.
- Record and monitor on-air times for all personnel in chemical protective clothing.
- Stop or change any unsafe act.
- Assist with accountability of all personnel assigned to the Haz-Mat operation.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Liaison Officer	HM 008
	Rev. 02/09

SCOPE

The Haz-Mat Liaison Officer may be utilized by Command to facilitate communications with the Hazardous Materials Branch, Division, or Group. This position should be created when the hazardous materials operation is complex and/or very hazardous. Since the Haz-Mat Officer may be very involved, such a Liaison Officer will provide another communications link with Command. This link will help maintain the flow of information in a more timely and efficient manner. This Liaison Officer may also be used by Command to provide critical communications between the Haz-Mat Branch, Division, or Group and other Branches and Divisions; to work directly with outside agencies or individuals with special knowledge who need to interact with Haz-Mat personnel.

RESPONSIBILITIES

The primary responsibilities of the Haz-Mat Liaison Officer are:

- Acquire briefings for Command and the Haz-Mat Officer in Charge.
- Understand Command's plan for the incident.
- Understand the plan of the Haz-Mat operation.
- Work with any company officials at the site to assure proper communications with the public
- Assist with Technical Experts who may be called to the incident
- Assist Command with clean-up, company contacts, and instructions at the site
- Monitor radio traffic at the incident.
- Provide face to face communication with Command, the Haz-mat Branch, Division, or Group and any other Branch, Division, or Group as directed.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Research	HM 009
	Rev. 4/09

SCOPE

The Haz-Mat Research Team is responsible for gathering, compiling, coordinating, and disseminating all data and information relative to the incident. This data and information will be used within the Haz-Mat Branch, Division, or Group for evaluating risks and developing or adjusting the Incident Action Plan (IAP), including; adjusting Isolation Zones, selecting protective clothing (PPE), determining spill control methods, implementing the decon process, and identifying medical treatment options.

METHODS

The Research Team should use multiple sources to cross-reference and verify information whenever possible. Sources should include; both department and on-line data bases, on- and /or off-site technical advisors and industry representatives, medical experts, private contractors (clean up and disposal, etc.) and other governmental agencies (fire and police departments, FBI, EPA, military, national weather service, et. al.) Information from varying sources does not always agree precisely, and is occasionally contradictory. The Research Team should reconcile small discrepancies favoring the safest and most logical options. Serious or irreconcilable discrepancies should be presented to the Haz-Mat Branch Director for evaluation.

Complex incidents and incidents where life-safety concerns cause "a need to act" put time constraints on the research process. At these times, a rough picture of the hazards involved as well as the necessary PPE and decon processes should be outlined in a timely manner, even as research continues.

TEAM MEMBERS

The Research Team's size will be based on the size and the complexity of the incident as well as the available resources, but should include the Research Officer and the Medical Officer for the Haz-Mat Branch.

RESPONSIBILITIES

The Research Team should take part in the development of the IAP and be prepared to brief Site Control, Decon, Entry Teams, RIT, Medical, Haz-Mat Medical and other Groups with detailed information pertinent to their specific assignments.

The responsibilities of the Research Officer and Team members include:

- Acquire all preliminary information for each product (and processes) identified as involved with the incident and fill out the "Chemical Reference Worksheet" for each product researched.
- Identify the primary hazards of the products (and processes) involved and submit to the Haz-Mat Officer in charge.
- Where leaks are likely to contaminate other material, identify possible affects from their interaction.
- Acquire current weather forecasts and frequently update.
- Acquire building layouts and/or topographical information.
- Make predictions regarding the behavior of the spill or leak based on the physical properties of the product(s) and their interaction with the environment.
- Identify medical concerns, including a timeline for the signs and symptoms of exposure.
- Make recommendations to the Haz-Mat Officer in charge for the following:
  a) Evacuation distances
  b) Size and location of Isolation Zones
  c) Proper levels and types of PPE for all zones
  d) Spill control methods, equipment, tools, and materials
  e) Decon methods
  f) Medical treatment options for exposure to the product(s)
- Assist with the development of the IAP
- Provide detailed, mission specific briefings to the various personnel as directed by the Haz-Mat Officer.
- Act as liaison with the various entities providing research information.
- Maintain all documentation required of the Research Team.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Logistics Equipment Support	HM 010
	Rev. 4/09

RESPONSIBILITIES

The primary responsibility of the Equipment Team and Officer is to provide the necessary equipment and materials for the Site Control Team, Research Team, Entry Team, Back-up Team, Decon Team, and Medical Team. Once designated, the Equipment Officer must assign team members in a way that allows each team within the division or group to acquire the necessary state of readiness within a time frame that compliments the sequence of events dictated by the action plan.

HAZ MAT RESPONSE VEHICLE(S)

The Haz-Mat response vehicle(s) shall be checked at the beginning of each shift to insure that all required inventories are accounted for and that all equipment, including computers and monitoring devices, are in the ready state. Any deficiencies in inventory or equipment failures shall be reported to the on duty Haz-Mat Captain for correction. During this check-out, a Haz-Mat technician shall be designated as the Equipment Officer for the shift, and this individual, along with other assigned team members, will be responsible for providing materials and equipment for all teams within the Haz-Mat operation.

ARRIVAL

Upon arriving at the scene, Haz-Mat response vehicles will stage until the Haz-Mat Officer in Charge (Branch or Division) has met with Command. Upon completion of the initial briefing, the Haz-Mat Officer in Charge will direct the Haz-Mat response vehicle(s) to the location where set-up will begin. At that location, the Equipment Officer will begin preparing to support the entire Haz-Mat operation with material and equipment resources.

SET-UP

Prior to being given further direction by the Haz-Mat Officer in Charge, the Equipment Officer will prepare the area for the Research/Communication Team to begin carrying out their assigned functions. From that point, he or she will identify and begin to set-up areas for the Entry Team and Back-up Teams to dress. Each of these areas will be labeled (in coordination with the Site-Control Officer).

DISTRIBUTION

Based upon the Haz-Mat Incident Action Plan and direction from the Haz-Mat Officer in Charge, the Equipment Officer and Team will begin to pull and lay out the protective clothing and

communications equipment for the Entry and Back-up Teams. This will be followed by setting out all required monitoring equipment and devices. Any electronic equipment will be warmed up, checked and calibrated by the Equipment Team prior to use by the Site Control and/or Entry Team members. Based on instructions, the Equipment Officer will also insure that all equipment and materials for spill control have been acquired, checked, and set next to the access control point prior to the Entry Team going on air.

After the needs of Research, Site Control, Entry, and Back-up have been satisfied, the Equipment Officer and Team will begin to supply and equip the Decon and Medical Teams. A dressing area in the Cold Zone will be identified by the Decon Officer, and the Equipment Team will deliver the necessary protective clothing items as well as decon equipment, tools, and supplies to that dressing area. From there, the Equipment Officer will also provide protective clothing, along with necessary plastic to provide exposure protection for all medical personnel and transportation vehicles. These materials should also include garments or materials to place on potentially contaminated patients.

TERMINATION

At the conclusion of the incident, the Equipment Officer is responsible to retrieve all decontaminated equipment and unused materials. As the Haz-Mat vehicles are being readied for service at the close of an incident, a complete inventory will be taken. Any missing items or damaged/ruined equipment shall be replaced based upon availability or report to the Support Services Officer so that replacement can be made.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Entry/Back up Team	HM 011
	Rev. 4/09

RESPONSIBILITIES

The Haz-Mat Entry and Back-up Teams are intended to work in the Hot Zone for the purpose of performing reconnaissance, response, monitoring, sampling, and spill mitigation. In order to successfully complete one or more of these assignments or tasks, the Entry and Back-up Teams must be properly prepared to operate in the Hot Zone, closely supervised by experienced officers and tightly supported by other teams or groups within the operation itself. Practical action plans accompanied by strong branch or division wide communications are key elements to the successful mitigation of significant chemical release.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment includes fire protective clothing and/or chemical protective clothing along with necessary respiratory protection to eliminate or reduce any potential danger. The Entry and Back-up Teams should have the following types of protective clothing available for use:

- Firefighting turnout coats, boots, and helmets
- Fire resistant gloves and hoods
- Disposable splash protection garments
- Disposable, fully encapsulated, vapor type chemical protective clothing with chemically resistant boots and gloves
- Non-chemical resistant gloves
- Chemical resistant gloves
- Hard hats with face shields
- Chemical resistant boot covers
- Cool vests at 70 degrees F or higher

At oil spills where there is no danger of fire, (based on air monitoring results), entry and back-up team members shall wear a disposable coverall, under gloves and over gloves, and oil-resistant boots or boot covers. No member may participate in spill mitigation activities in station uniforms or street clothing. Any cotton, leather, or other absorbable material that is utilized at such calls shall be discarded after use.

At incidents where there is an actual or potential threat from fire or explosion full firefighting protective clothing or turnout gear must be worn within the Hot Zone to include:

- Bunker pants, coats, boots
- Firefighting helmet with face shield
- Firefighting gloves and hood
- SCBA with face-piece in place

At incidents where there is an actual or potential threat from chemical exposure, chemically resistant clothing must be worn within the Hot Zone to include:

- Flame resistant coveralls
- Chemically resistive garments with hoods
- Chemically resistive boots and/or boot covers
- Chemically resistive gloves

When gloving, an inner glove shall be worn and a gauntlet glove may be worn over outer gloves to provide additional hand protection. At incidents where there is an actual or potential threat from chemical exposure and fire, chemically resistant clothing with firefighting turnout gear shall be worn within the Hot Zone. The chemically protective clothing may be splash protection, vapor tight, depending on the nature of the hazard. At incidents where the risk of chemical exposure is extreme, a fully encapsulated vapor tight protective clothing ensemble shall be worn within the Hot Zone to include:

- Flame resistant coveralls
- Chemically resistant, vapor tight protective garment that includes chemically resistant outer gloves and boots
- Head protection if applicable
- Gauntlet gloves may be worn over outer gloves to provide additional hand protection

There is an exception to this guideline: The protective clothing for the back-up team is usually identical to that of the entry team. If the probability for rescuing the entry team would involve a fire fight, it may be more practical to have the back-up team in firefighter turnouts without chemical protective clothing. Such a decision must be based on the ability of a fire to change the potential chemical exposure for the back-up team or the unlikely possibility of chemical exposure.

RESPIRATORY PROTECTION

The Entry Team and Back-up Team leaders in consultation with the Hazardous Materials Team Leader (i.e. the Hazardous Materials Branch or Division Supervisor) shall determine the type of respiratory protection required within the Hot Zone.

Self-contained breathing apparatus is the required respiratory protection at incidents involving fire and explosion, where there are high concentrations of known hazardous materials or to unknown or uncharacterized materials, at incidents where oxygen concentration is less than 19.5%, and at incidents where there is a real or potential threat of low level radioactivity.
Air purifying full-faced respirators (APRs) can be utilized in the Hot Zone or Warm Zone where there are low concentrations of known materials that can be quantified based on the type of instrumentation available. APRs can only be utilized when the concentration present does not exceed the capacity of the cartridge, and the cartridge is approved for the chemical hazards present. Such cartridges should not be used when the oxygen concentration is below 19.5%, or the concentration present exceeds 50 times the TVL or PEL, or the concentration is at or above the IDLH.

GETTING ORGANIZED

As the Haz-Mat Branch or Division Supervisor is developing an action plan, he or she will conduct a meeting with all team leaders to discuss and refine the plan. When the officer in charge meets with the Entry and Back-up Team Leaders, he or she should have all necessary information from the Research Team so that these questions can be answered:

- What is the purpose of the entry into the Hot Zone (recon, sampling, mitigation, etc.)?
- What PPE is to be worn by both teams?
- What communications equipment and channel(s) are to be used?
- What monitoring equipment is to be utilized?
- What equipment, tools, and materials are needed for the excursion?
- What tasks are to be completed by the Entry Team?
- How many Entry Team members will be needed (the Back-up Team must provide one on one rescue ability)?
- How is the back-up team to be deployed?

Once the Action Plan has been drafted for the specific entry into the Hot Zone, the Entry Team and the Back-up Team should be sent to their designated area to be briefed by their team leaders. Each team should utilize a supervisor who will direct work or actions as opposed to carrying them out. As the teams are being briefed, the Equipment Officer and Equipment Team should bring all required protective clothing and communications equipment to the dressing area. All monitoring equipment, other equipment and tools, and spill control materials shall be delivered to the entrance of the Warm Zone. Personnel should be assigned to the Entry and Back-up Teams to help them dress. They should be supervised by the Equipment Officer and checked by the Safety Officer.

MEDICAL EVALUATION

Prior to dressing Entry or Back-up Team members, each person entering the Hot Zone shall be evaluated by a member from the medical team. This evaluation required vital signs as well as questions to be answered and shall be documented by a form to be filled out on each member. Any abnormal vital signs or negative answers to medical questions shall eliminate ant team member from dressing and entering the Hot Zone. Medical personnel will also provide Entry and Back-up Team personnel with information about the toxic hazards of chemicals that they might be exposed to. Such information shall describe potential signs and symptoms from exposures as early warning signs of protective clothing or equipment failure.

BRIEFINGS

The team supervisors shall brief the Entry or Back-up Teams respectively as in the roles and tasks to be completed for each specific entry made into the Hot Zone. As instructions are being given concerning the details of the initial or draft action plan, team members are encouraged to offer suggestions to improve the plan. Any suggested changes are then given to the Haz-Mat officer in charge for appropriate modifications. During such briefings, each individual team member shall be given assignments that compliment the team efforts inside the Hot Zone.

COMMUNICATIONS

Once the Entry and Back-up Teams have been medically evaluated, briefed, properly dressed, and all equipment and materials put in place, the officer in charge will do a radio check on the assigned channel. After he or she has insured that radio communications with both the Entry and Back-up Team supervisors in tact, the officer in charge should also insure that Site Control, Decontamination, Medical and Safety are also in place, ready to go, and on the appropriate radio channel. After this radio check has been completed, the Haz-Mat officer in charge will notify Command that entry into the Hot Zone is going to proceed.

SAFETY OFFICER

The Safety Officer has several duties related to the Entry and Back-up Teams operating in the Hot Zone. First, he or she is to oversee the medical evaluation and documentation. The Safety Officer will have the final say on who can and cannot work in the Hot Zone. The Safety Officer will also observe the dressing procedure and will check each team member to provide quality control for this important process. During the briefings in which assignments are given to Entry and Back-up Teams, the Safety Officer shall also provide instruction as to the safety practices that he or she wants to be employed in the Hot Zone. There shall be no deviation from the Action Plan or from those safety instructions without the permission of the officer in charge and the Safety Officer. As the Entry and Back-up Teams move into position, the Safety Officer shall also check the Access Control Point to make sure that all personnel entering the Warm Zone are being accounted for. He or she will also monitor all communications in the Warm and Hot Zones in order to alert the officer in charge of any safety concerns. Along with, and in connection with the officer in charge, the Safety Officer has the authority to stop the operation in the Hot Zone and to cause all members to leave the area.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Decontamination	HM 012
	Rev. 04/09

INTRODUCTION

The purpose of the Decontamination Procedure is to assure that any potentially harmful or dangerous residues, on persons, equipment or apparatus are confined within the Hot Zone. Decontamination is intended to prevent the spread of contaminants beyond the already contaminated area, including the fire station, the hospital and other environments.

The specific measures required to decontaminate personnel, equipment or apparatus will vary with the contaminant, the circumstances, and the level of contamination. These factors must be considered on a case-by-case basis, within the guidelines described in this procedure.

Command is responsible for assuring that a Decontamination Group is implemented at incidents which involve a potential contamination problem. This sector or team should be assigned to personnel from the Hazardous Materials Team. Decontamination must be integrated into the management plan of the hazardous materials incident. Always consider Metro Decon units and trailers.

The Decontamination Officer is responsible for determining the most appropriate decontamination procedures and managing the decontamination process. This should be done in conjunction with advice from Research and Communications and coordinated with the Hazardous Materials Division Officer.

The initial assessment of decontamination requirements must be based upon the specific needs of the situation. The decontamination process must be appropriately designed for the specific materials involved and the degree and type of exposure encountered. The assessment will require research and may involve consultation with toxicology sources.

THE DECONTAMINATION OFFICER

The Decontamination Officer must assume that all personnel and equipment preparing to leave the Hot Zone are contaminated. Three courses of action are available:

- Confirm no contamination using instruments or investigation based on the nature of the situation.
- Decontaminate as appropriate to the situation and release.
- Retain and package items for removal from the site for disposal or decontamination at a different location.

In all cases, the primary objective must be to avoid contaminating anyone or anything beyond the

Warm Zone. When in doubt, decon all affected personnel, equipment, and apparatus.

THE DECONTAMINATION AREA

The Decontamination Area should be established within the Warm Zone perimeter adjacent to the Entrance/Exit Access Control Point. Personnel, equipment, and apparatus shall not be permitted to leave the Warm Zone without approval from the Decontamination Officer.

The Decontamination Area should provide a corridor leading away from the source of contamination toward the Exit, with stations along the way for the deposit of tools, equipment, protective clothing and other items. Monitoring personnel and equipment should be appropriately placed along the path. A person traveling along the path should experience a decreasing level of contamination along the way. When showers or spray nozzles are used, adequate space must be provided to avoid contamination of other areas or persons. The area where washing and rinsing are taking place must be diked to avoid water running into the clean area of the contamination reduction corridor.

All contaminated items must remain within the perimeter of the Warm Zone until decontaminated or safely packaged for removal. The Hazardous Materials Sector Officer or Decontamination Officer will be responsible for supervising proper removal of these items. Personnel should be assigned to inspect persons and/or equipment before being released from the Decontamination Area. This inspection may be visual or may involve the use of monitoring instruments, when appropriate. It must be assumed that items or persons are contaminated, unless their non-contamination can be confirmed.

DECONTAMINATION AREA PRECAUTIONS

During the decontamination process, all personnel working in the Decontamination Area must be adequately protected from contaminants. The Decontamination Officer will identify and require the appropriate protective equipment. These individuals and their equipment may also require decontamination after use.

Any runoff or residue from decontamination procedures must be contained within the Warm Zone and retained for proper disposal. Contaminated runoff must not be allowed to spread or escape. Diking may be necessary, and should be directed back to the Hot Zone.

PROTECTIVE EQUIPMENT PERSONAL EFFECTS

When feasible, protective clothing and personal effects should be decontaminated and released from the Warm Zone with the individual. If the Decontamination Sector Officer determines this is not feasible, these items will be impounded in the Decontamination Area. Personal effects will be carefully guarded by Decontamination Sector personnel until a determination can be made regarding their final disposition.

THE DECONTAMINATION PROCESS

The Decontamination Process shall consist of two lines. One line shall be utilized for dry decon

while the other line will be for wet decon. A dry decon line should be used when there is minimal risk of contamination to the individual or anyone else, and shall be a line that allows for clothing to be removed and replaced by clean garments. Such a process can be used for individuals indirectly effected by a chemical or biological release, and by individuals working in the Warm Zone that have not handled contaminated people or equipment. A wet decon line should always be used by response personnel working in the Hot Zone on the decon personnel who have handled them.

Decon lines should be established in steps or stages to accommodate the equipment and clothing that must be discarded. They must start at an entrance and end at an exit. As the individual being deconed proceeds toward the exit, the corridor should become cleaner. This contamination reduction corridor should also have a dirty side and a clean side. The dirty side should be used to discard anything that is potentially contaminated while the clean side is used to resupply or redress emergency responders who are returning to the Hot Zone.

SPECIAL CONSIDERATIONS

The normal wet decon process attempts to clean all protective clothing and SCBA's prior to doffing of any ensemble items. Thus, breathing protection and gloves must stay in place until the individual has passed through the wash and rinse phase of decon and is in a dry area.

If a Haz-Mat team member comes out of within contamination inside the protective garment or suit, or if the member is incapacitated, the Decon Officer will have to make a decision. The decision will be whether or not to remove all protection from the responder prior to beginning the wash and rinse phase of decontamination. If the responder is without obvious vital signs, he or she should be removed from all protective clothing, quickly deconed, and treated.
Anytime a responder or victim (of chemical or biological exposure) is incapacitated, they must be placed on a backboard prior to the decon process being started. Sometimes, it may be advisable to setup a second wet decon line to handle those who must be carried in situations of mass decon or the anticipated decon of several non-walking patients. Failure to do so will result in grid lock within the decon process. Such grid lock will overwhelm those providing decontamination and delay medical treatment of patients.

If a responder or victim can only be partially deconed or receives inadequate decontamination efforts, that person should be placed in encapsulation to protect medical personnel. In addition, the Incident Commander should anticipate the possibility of potentially contaminated individuals reaching the medical treatment area. This anticipation should be countered by providing protective clothing for all medical personnel and taking contamination reduction measures for transportation vehicles. Anytime such a possibility exists, Command should notify medical personnel in a timely manner so that they can be properly prepared.

FIRST RESPONDER DECONTAMINATION

At times, first due companies will arrive at the scene of incident and be confronted with the need to provide gross decontamination for a group of victims. Sometimes this group may be relatively small

or it may be the beginning of a mass decontamination effort. Such decontamination must be accomplished, because victims will be suffering from the effects of the exposure and/or there will be a need to reduce the potential for responders to become contaminated.

When a single company of two arrives at the scene of an incident where gross decon is required before a hazardous materials operation can be put in place, the company office will insure that all crew members are in full protective clothing with tape being applied to eliminate openings into or underneath the ensemble. If chemical protective clothing is not available, firefighter protective clothing will have to be utilized.

Tape will be used to create a corridor from the gross decon area to the holding area. Both the decon area and the holding area will also be taped. Every area that is identified with tape will be considered the warm zone. No one will enter the warm zone without the appropriate protective clothing or the highest level of clothing available.

Gross decon will be performed with water only from a standard small attack line with a firefighting nozzle. It will be performed by a firefighter standing outside of the warm zone. The individual being decontaminated will simply be "washed down" and then moved into the holding area. No clothes will be removed unless there is an ability to replace the clothing to recover the victim.

The holding area will be monitored by me or more firefighters in the full protective clothing. They will not enter the holding area unless medical treatment is required by a victim who becomes incapacitated. Once a firefighter enters the warm zone, he or she will remain until they can be properly decontaminated. Any victims that are removed from the holding area to an ambulance or to an indoor facility prior to a more comprehensive decontamination process shall remain inside the ambulance or facility until properly decontaminated. Any ambulance or facility utilized for individuals who have not been decontaminated or who have been inadequately decontaminated, shall be treated as a warm zone until properly decontaminated at the termination of a hazardous materials operation.

DECONTAMINATION SOLUTIONS

Solution A

5% Sodium bicarbonate--5% trisodium phosphate and water. Mix 2 pounds of commercial grade trisodium phosphate and 2 pounds of sodium bicarbonate with 5 gallons of water.

- Good for inorganic acids, metal processing waste, and some solvents and organic compounds such as trichloroethylene, chloroform, and toluene.

Solution B

10% calcium hypochlorite. Mix 4 pounds of calcium hypochlorite with 5 gallons of water.

- Good for heavy metals (mercury, lead, cadmium), pesticides, chlorinated phenols, dioxins, PCB's, cyanides, ammonia, and other non-acidic inorganic wastes.

Solution C

5% trisodium phosphate and water. Mix 2 pounds of trisodium phosphate with 5 gallons of water.

- Used as a general purpose rinse for some solvents and inorganic compounds, oily, greasy, non-specific waste not suspected to be contaminated with pesticides.

Solution D

Mix 1 cup of concentrated HCI into 5 gallons of water (add the acid to the water, **not** the water to the acid.) produces a dilute solution of hypochlorous acid (HCIO), Stir with a wooden or plastic instrument.

- Makes a weak acid solution good for inorganic bases, alkali and caustic wastes.

Solution E

A concentrated solution of detergent and water. Mix into a paste and scrub with a brush, rinse with water.

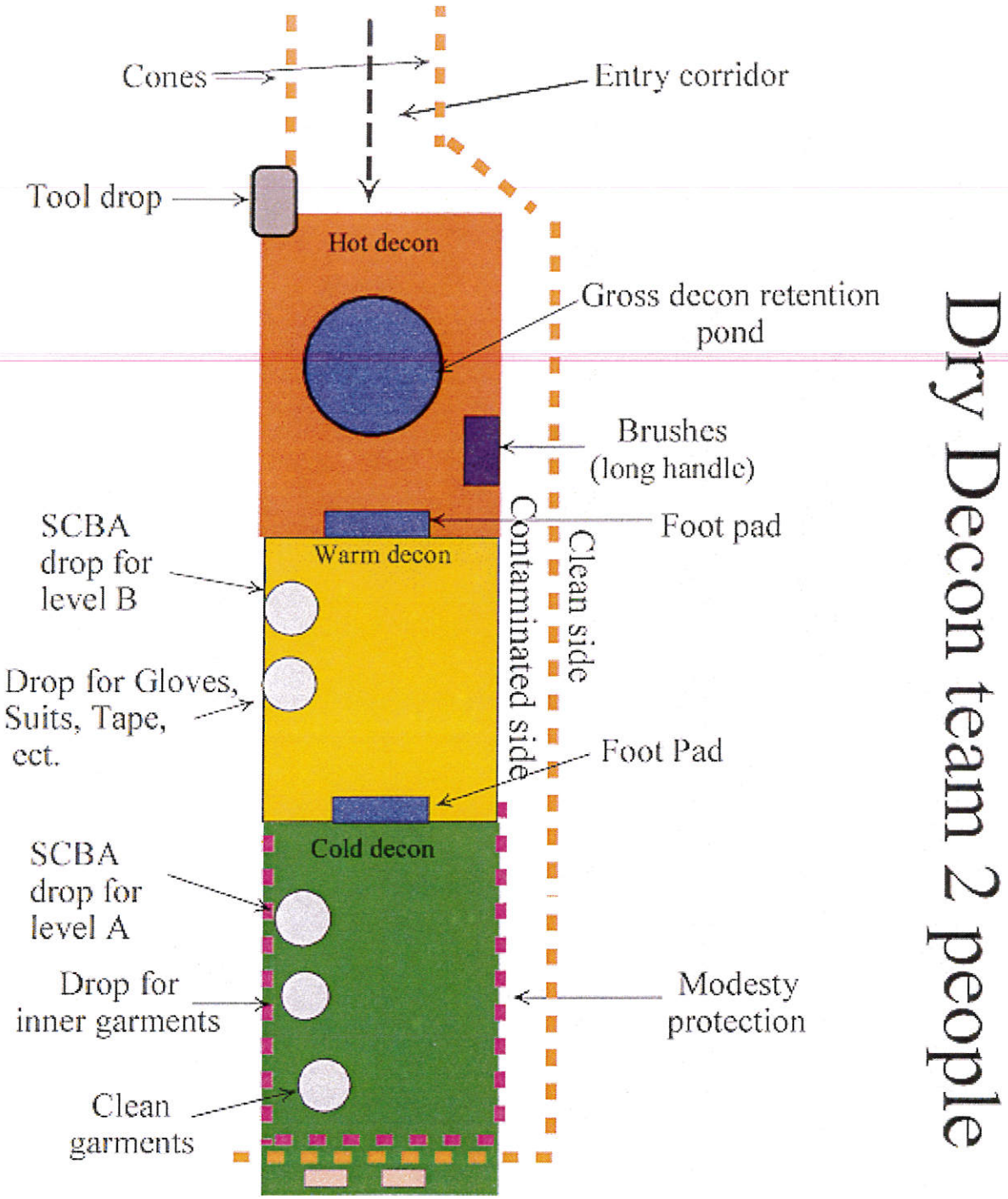
- Good for radioactive materials.

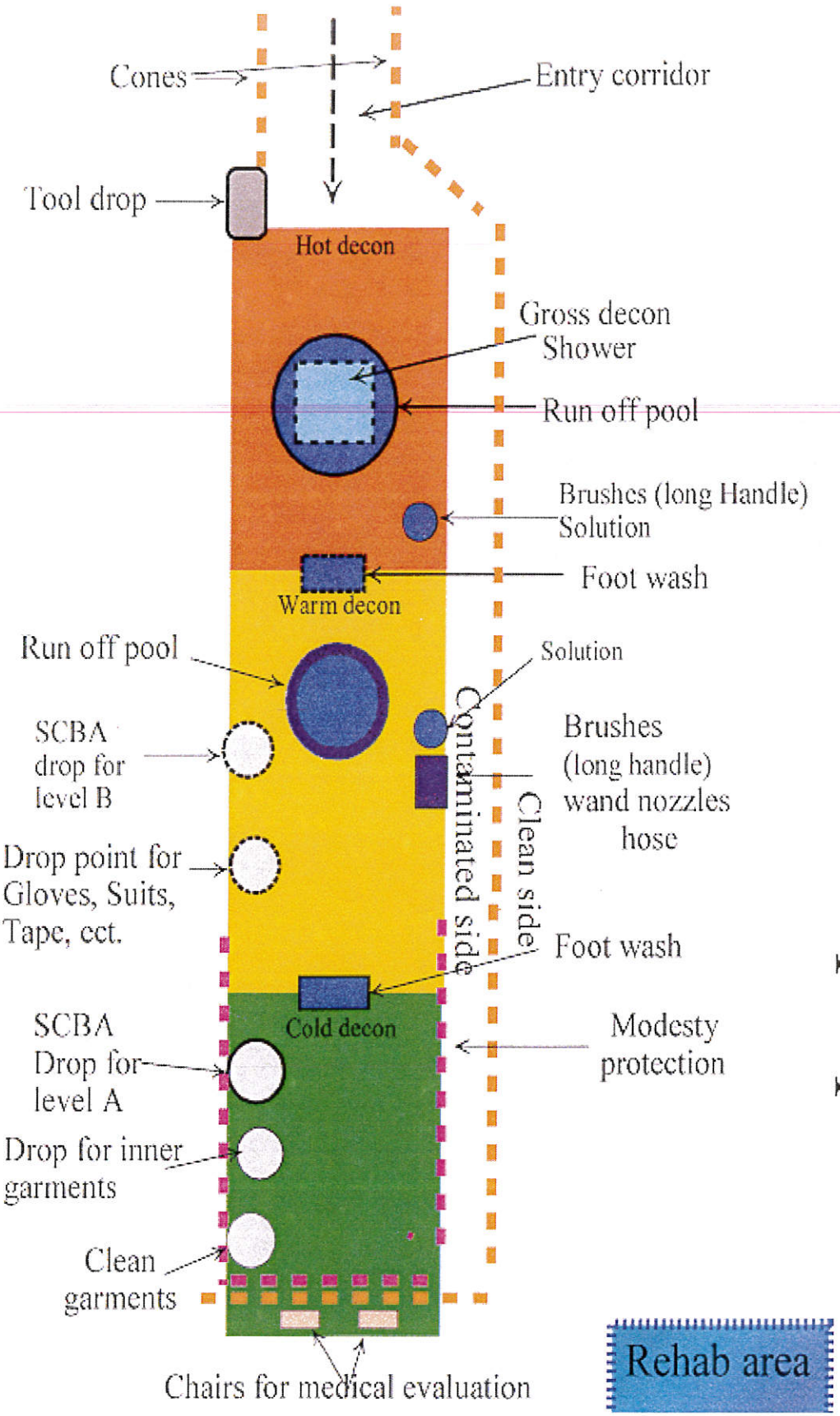
Solution F

½ cup of household bleach with 5 gallons of water, or ½ cup hydrogen peroxide (3-4%) with 5 gallons of water.

- Good for etiologic materia

Dry Decon team 2 people





Wet Decon team2 people

DECONTAMINATION OVERVIEW

- Decon should obtain a briefing from the Haz-Mat Officer on the current situation and the needs for a Decon Group for the incident.
- Develop and implement a plan for Decon. Look at all equipment and resources which will be needed for the incident.
- Document and track all actions performed.
- Document and log all companies and personnel assigned to the group.
- Advise Haz-Mat of the resources and equipment required for decon to operate.
- Establish a site for the decon process to take place.
- Ensure that the proper level of protection and clothing is being used by personnel working in the Decon Group.
- Establish the corridors which personnel and equipment will take when entering and exiting the decon process. This corridor should be clearly marked.
- Identify all those personnel and equipment that is contaminated and make sure they proceed through decon.
- Provide for the safety and welfare of all personnel working in the Decon Group.
- Supervise the decon process of the incident. Make sure the decon methods used are proper for the situation at hand. Work closely with Operations and Technical Specialists in the area.
- Maintain control of decon. Make sure that no unauthorized people enter the decon corridor. Also make sure that the flow in the decon corridor is consistent with the plan.
- Maintain communications with the Safety officers on the incident. Advise them when decon is set up and ready to be utilized. Also keep track of the personnel entering the Hot Zone.
- Work closely with the Safety Officer and notify them of personnel in the hot zone and the warm zone. This will help accountability while working in potentially dangerous areas.
- Coordinate the transfer of patients from decon to the Medical Treatment area. Advise Command, Haz-Mat, and Medical personnel of potential contamination and what decon has been completed on responders, equipment, tools, and patients.
- Ensure that all contaminated material and runoff is contained and secured in decon. Work with Haz-Mat to properly dispose of all contaminated items during and after the incident.
- Constantly advise Command of the progress and needs of the decon process.
- Maintain checklists, and worksheets on all aspects of the decon process.

WEST VALLEY CITY FIRE DEPARTMENT

Hazardous Materials Decontamination Worksheet

ENTRY TEAM	BACK UP TEAM	RADIO CH(S)

Decontamination Team Accountability

NAME	PC	ON AIR TIME	OFF AIR TIME

Protective Clothing (PC): (TO) Turnouts, (DOTO) Disposable over Turnouts.
A) Level A, B) Level B, C) Level C, D) Level D, P) Proximity.

DECON SOLUTIONS	EQUIPMENT NEEDS

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Mass Decon	HM 013
	Rev. 4/09

INTRODUCTION

The use of the word "Product" in this SOG may also be referring to other sources of potential contamination. "Product" may also include, but is not limited to: Biological, Radiological, Chemical, WMD, and other forms of foreign contamination that can or will cause harm to living organisms or the environment.

This guideline provides the basic philosophy and strategy for situations requiring the decontamination of large numbers of people who have been exposed to or contaminated by the release of hazardous materials. These hazardous materials may be released accidentally in transportation, released from a fixed facility, or other releases of potentially dangerous or lethal chemicals during the commission of a crime or terrorist act. Because of the potential scale of an event this size, it is extremely important that the incident command system be established immediately upon arrival and a strong command structure be maintained to ensure coordinated efforts on the parts of all personnel and agencies involved.

It is important to note, if large gatherings of people have been exposed to a release of potentially lethal products, they need to be brought under control by arriving fire and police units. The potential exists for cross-contamination of response personnel. When entering the scene of these emergencies, it is important that all personnel are protected by the appropriate levels of PPE which may include chemical "splash" protection and SCBA.

FIRST ARRIVING UNIT

The first arriving unit will size-up the situation and establish command. Care must be taken to avoid exposing crews to contamination and secondary devices. If information has been received that a chemical release has occurred, size-up may have to take place from an area away from contamination and evacuees that may be contaminated. Once command has been established and size-up completed, crews can be assigned specific tasks and group or sector assignments given. Examples of assignments may be: "Recon", "Haz-Mat", "Search and Rescue", and "Decon". This SOG will address "Mass-Decon" and it is important to note: "The Incident Commander must use their own judgment and skills when deciding if MASS-DECON is going to be implemented following a product release."

THE ACTION PLAN

Based on the initial size-up and any other information available, the incident commander will formulate an action plan to deal with the situation.

This "Action Plan" must provide for:

- Isolation of the area
- Securing the area (law enforcement)
- Evacuation (are evacuees contaminated?)
- Rescue (are there victims who are savable?)
- Decontamination (How many? What type?)
- Treatment of patients
- Protect exposures (life, environment, property)
- Provide for the safety of all (responders and citizens)

THE HAZMAT DIVISION/GROUP

Once the Haz-Mat group has been established, a mass-decon group must be created. It is important to note: Mass-decon is used for people who must have contaminants rapidly removed from their persons to avoid serious illness or death and to keep the spread of harmful contaminants to a minimum. Care should also be taken to prevent cross-contamination of response personnel during mass-decon. This is achieved by the use of appropriate levels of PPE for those involved in the mass-decon group.

THE HAZMAT DECON GROUP

Decontamination by removing clothes and flushing or showering with water is the most expedient and practical method for mass-casualty decon. Disrobing and showering meets all the purposes and principles of decontamination. Showering is recommended whenever liquid transfer from clothing to skin is suspected or possible. Disrobing should occur prior to showering for chemical agents however, the decision to disrobe should be made by the Incident Commander based on the situation and the type of chemical released. Wetting down casualties as they start to disrobe speeds up the decontamination process and is recommended for decontaminating biological or radiological casualties. However, this process may:

- Force chemical agents through the clothing.
- Decrease the potential capability of directly showing skin afforded by water pressures and dilution.
- Relocate the chemical agent within the actual showering area, thereby increasing the chance of cross-contamination spread by personal contact with the material or showering run-off water.

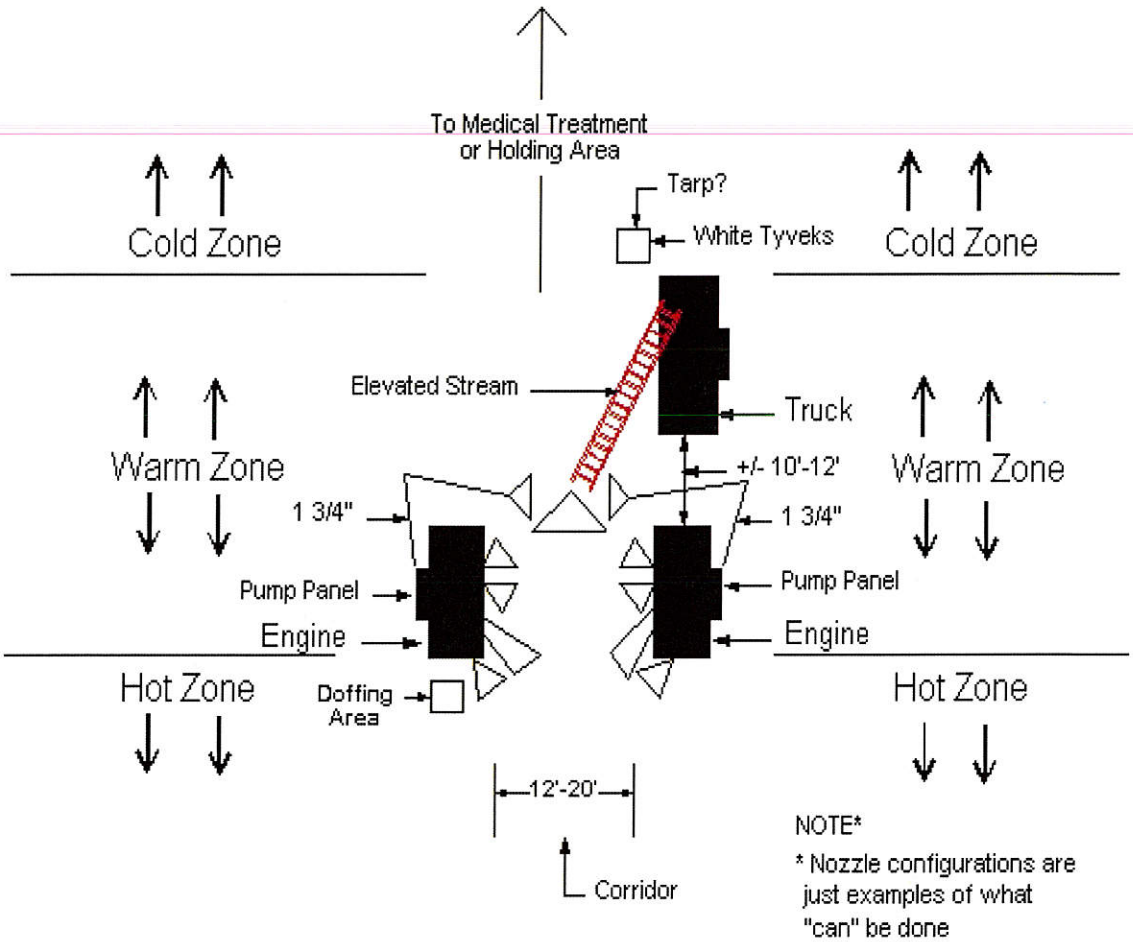
It is recommended that victims remove clothing completely. However, victims unwilling to disrobe should be informed of the potential hazards of remaining in contaminated clothing. Victims should be encouraged to remove as much clothing as possible, proceeding from head to toe. White tyvek coveralls shall be provided for all victims who have been decontaminated. This will provide for modesty protection as well as an identifier of victims who have been through the decontamination process and can proceed to the holding areas or medical treatment areas.

Important note: It is recommended that emergency responders use a high volume of water for mass-decon delivered at a minimum of 60 pounds per square inch (psi). It is also important to note:

certain nozzle will not deliver adequate streams for effective decontamination and you should select nozzles that will deliver appropriate streams and patterns at 60 psi.

THE DECON PLAN (setting up)

HOT AND COLD ZONES



Concurrently with the set-up of the mass-decon corridor, hot and cold zones should be established. The "Hot" zone being on the side where potentially contaminated victims would enter the decon corridor. The "Cold" zone would begin at the point where victims have been decon, dressed in tyvek, and prepared for medical screening or evacuation. All areas between these points would be considered the "Warm" zone being the area of apparatus placement for the establishment of the actual "corridor." These areas should be secured and well marked to prevent access of unauthorized personnel to reduce the risk of cross-contamination of response personnel as well as civilians.

CRIME SCENE?

The individual in charge of the decon corridor should always keep in mind: "He or she may be

dealing with a crime scene!" Keep these things in mind:

- Every action that can or will be taken may be considered evidence.
- The potential for destruction of evidence exists and every step should be taken to preserve evidence.
    a) Does victim clothing need to be individually bagged and tagged?
    b) Are the proper security precautions bring taken to ensure victim and responder safety?
    c) Is proper "documentation" of your actions taking place?
- Mass Decon can be a bit of a walk in order to place it in an area that is safer from secondary devices and have the ability to control run-off.

IMPORTANT NOTES

- The decon group supervisor needs to have a plan in advance on where he or she will send decontaminated victims for shelter. Some of those options are:
    a) Other non-contaminated structures capable of supporting a large influx of people.
    b) Tents
    c) Buses (school buses or Transit Authority buses)
    d) Other forms of shelter that can quickly be mobilized and brought to the scene.
- Use as few personnel as possible to actually run the corridor.
    a) Only one APO (apparatus pump operator) would be required to maintain water flows once the corridor is established and the flow of water begins.
- You may have to shut down some of the "non-pumping" apparatus to limit the amount of carbon monoxide in the corridor.
- Hose-lines will impede the flow of decon water away from the decon corridor. Use cribbing or other tools under the hoses to allow used decon water to flow away from the corridor.
- A minimum of Full PPE and "splash" protection should be worn in the decon area by anyone who is involved. This includes all personnel who are actively involved in decontamination. Security and law enforcement personnel should also don "splash" protection if they are required to work in proximity to the decon corridor.
- All efforts should be made to ensure the dignity of those individuals who need to disrobe. "Privacy corridors" can be established quickly using tarps and other fire apparatus if available.
- Look at drainage when the corridor is established. Try and establish the decon corridor in the higher area where run-off flows perpendicular and away from response personnel and victims.
- Victims may be young, elderly, weak, strong or injured. Remember: What is it going to be like if the temperature outside is 25 degrees and water temperature 45 degrees and you have to tell people to "take off their clothes and walk through a cold shower." Have a plan and have compassion for those who are about to do this too.
- Technicians and non-ambulatory victims will not be taken thru the mass-decon corridor unless ordered by command. Other decontamination corridors will be established for response personnel and non-ambulatory victims.
- The use of (2) engines and (1) truck to establish the mass-decon corridor may not be possible. You may only have one or two pieces of apparatus available to perform mass-decon. "Know your tools and know how they function." Know the purpose of mass-decon" and "Know your capabilities"

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response Site Control	HM 014
	Rev. 4/09

PURPOSE

The purpose of site control is to isolate and secure the area of operation for the Haz-Mat Team. This requires that the Site Control Officer and all assigned personnel determine the size of the incident zones, hot, warm, and cold, and that such zones are properly identified and marked by tape and/or signs. Site Control will also identify and mark all working areas or activities within the Hazardous Materials Branch or Division. They will also establish the identity of the 1) Research area, 2) Dressing area, 3) Resource area, 4) Decon area, 5) Medical area, and 6) Rehab area. Such identification allows all team members or other personnel to move efficiently through the Haz -Mat operation based upon there relative assignments. Finally, the Site Control Officer is responsible to identify, establish and control all access points into and out of the Warm Zone.

CONTROL ZONES

Control zones at Haz-Mat incidents may or may not be in place upon arrival of the Haz -Mat team. Irregardless, it is the task of the Site Control Officer to make sure they are in place and visibly marked so that they are readily recognized by all personnel. The placement of tape, and/or signs, should be based on research of the chemicals involved and based on the use of air monitoring equipment and methods. Thus, site control personnel should utilize monitoring equipment to set up perimeters and should continue to monitor during the incident to insure the quality of air in the cold zone. This is a protection for all personnel who may not be properly dressed to protect themselves from a potential exposure.

WORK AREAS

As divisions, groups, or teams are identified to work in each designated area of activity, such areas should be identified by signs or labels to facilitate the movement of personnel and communications between groups within the Haz-Mat operation. Such work areas are:

- Research/Communications
- Support
- Entry Team
- Back-up Team
- Decontamination
- Medical
- Rehabilitation

The sites selected for each work area will be determined by the appropriate team leader or supervisor and communicated to the Site Control Officer so that his or her team can apply appropriate signage for the pre-determined location.

ACCESS CONTROL

After consulting with the Haz-Mat Officer in charge and/or the Safety Officer, the Site Control Officer will select and establish access points into the Warm Zone. Such points of access and egress will be called access control. Each access point will be manned by a member of the site control team. This member will not allow anyone to enter the Warm Zone without the proper level of protective clothing and an assignment. The team member(s) at the access control point(s) will record all members entering and leaving the Warm Zone through that accountability location. They will also record on-air times for team members utilizing their access point.

SITE CONTROL OFFICER

It is the responsibility of the Site Control Officer to provide air monitoring in the Cold Zone, identify all work areas, establish access control points, and monitor the work of all personnel assigned to the site control.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Protection Totes	HM 015
	Rev. 4/09

SCOPE

We respond to a variety of incidents that pose high risk potential to firefighters. This procedure identifies the steps to follow and the use of all the equipment in our chemical protection totes carried on all front-line apparatus.

USAGE OF CHEMICAL PROTECTION TOTES

This guideline shall be put to use whenever chemical protection is warranted in the performance of our duties. The equipment in these totes is for the protection of our personnel, the protection of the public, and the isolation (if necessary) of contaminated areas or victims of a chemical accident, spill, or terrorism related event. The equipment in these totes is listed below:

TOTE CONTENTS

- (4) Yellow (size 6x) Tyvek "Splash" suits - for crew protection over the top of turn-out gear.
- (4) White (size 3x) Tyvek outer garments - for victims who have been decontaminated following possible contamination at any type of chemical, biological, or possible WMD event. They may also be used for medical emergencies where blood borne pathogens may be present and the safety of the crew and emergency responders may be in question. They may also be used as the engine, truck, or other emergency responders see fit at the scene of any emergency.
- (1) box latex gloves
- (1) Roll duct tape - to seal openings on Tyvek outer garments of responders.
- (1) Roll (red) 3" wide isolation flagging - to isolate victims and/or establish "Hot Zones" prior to the arrival of Haz-Mat teams or command staff.
- (1) ERG: DOT's, Emergency Response Guidebook
- (1) NIOSH, Pocket Guide to Chemical Hazards
- (1) Digital photograph of tote's contents for crew reference.

EXAMPLES OF POTENTIAL TOTE USES

- Any suspected hazardous material presence
- Any suspected terrorism (WMD) event
- Any suspected presence of blood borne pathogens
- Any event where isolation of the area is necessitated or suspected
- Where any member of the crew involved sees a necessity for the use of any/all equipment at their disposal.

COMMAND IMPLEMENTATION

Whenever any of the equipment in these totes has been used at the scene of an event or suspected event, first arriving units will inform all other responding units of the potential risks involved. Responding units that are not trained hazardous materials technicians understand they will not be expected to enter potentially contaminated areas, take unnecessary risks, or render safe any potential devices or containers while using this equipment. The items in these totes are for their protection and the protection of the public should a chemical event occurs. Crews will follow all department SOG's regarding response and the necessary steps to take regarding all incidents.

Whenever any equipment in the totes have been used, whoever is in-charge of the crew that day will contact any Haz-Mat team member for immediate restocking and resealing of the tote for any future use.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Hazardous Materials Response/Haz-Mat Medical Group	HM 016
	Rev. 6/09

SCOPE

The Haz-Mat Medical Group is responsible for monitoring the medical condition of personnel assigned to the Haz-Mat Branch and providing treatment as needed. Additionally, the group serves as the on-site resource for medical information regarding exposure to the release. As part of their mission, Haz-Mat Medical Group member(s) should be attached to the Research Group to identify medical concerns associated with the hazardous materials release and to assist in the creation of the Incident Action Plan (IAP).

TEAM MEMBERS

The Haz-Mat Medical Group will be led by the Haz-Mat Medical Officer. Additional personnel should be assigned to the group based on the scale of the incident. Assignments could include; Medical Research, Medical Monitoring (of Hot Zone entrants), Haz-Mat Medical Treatment, Haz-Mat Medical Transport, etc.

The Haz-Mat Medical Officer should request the personnel and equipment necessary and create an organizational structure to meet the responsibilities of the Haz-Mat Medical Group.

RESPONSIBILITIES

The responsibilities of the group include:

- Identify the signs and symptoms of exposure (at various levels) to the released product(s), including short and long term complications.
- Identify emergency and long term treatment options for victims of exposure.
- Create Emergency Treatment Plans for treating victims exposed to product.
- Identify other health concerns for responders at the incident. (i.e. cold, dehydration, ice, etc).
- Identify equipment and PPE levels for medical personnel who are treating exposed victims and responders who may not have been through the full decon process prior to treatment.
- Manage and prepare (i.e. "drape") dedicated ambulance(s) and crew(s) for exposed or injured responders who may not have been through the full decon process.
- Assist with the preparation of the IAP.
- Treat and transport exposed or injured response personnel.
- Establish Medical Clearance for entry team members (e.g. acceptable vitals range, unacceptable medications or medical history, etc.) with consideration for environmental conditions and the level of work expected.
- Medically clear entry team members prior to entry.

- Brief Medical Branch, Site Control, Decon, Entry Teams, Rit, Haz-Mat Safety Officer, and other groups, with detailed medical information pertinent to their specific missions (i.e. signs and symptoms of exposure, short and long term complications of exposure, emergency treatment protocols, etc.).
- Monitor the medical condition of entry personnel prior to, during, and immediately after entry into the Hot Zone.
- Contact and brief receiving hospital ER or ED regarding the product, complications of exposure, and decon status of patients.
- Serve as Liaison for all off-site medical experts on the treatment of exposed victims.
- Maintain documentation on emergency personnel and patients.
- Follow up with all exposed West Valley City employees and the designated department Exposure Officer.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Meth Lab Response	HM 017
	Rev.4/09

SCOPE

Due to the possible complexity of Meth Labs, West Valley City Fire Department requires a Haz-Mat Technician level response.

Possible hazards may include:

- Improvised booby traps or chemicals left intentionally in an unstable state
- Iodine
- Hydrogen Hydroxide
- Sodium Chloride
- Phosphoric Acid
- Acetone
- Isopropyl Alcohol
- Phosphine
- Ammonia
- Kerosene
- Lithium Hydride
- Phosphorus (yellow)
- Hydrogen Cyanide
- Propane

When serving a warrant on a location that may have or recently had a Meth Lab West Valley City Police Department will utilize one or both of the following teams, Special Operations-Narcotics or SWAT. West Valley City Fire Department has tactical medics know as TEMS assigned to the SWAT team. If SWAT is involved there will be a TEMS member available to act as liaison between Fire and Police. **The Narcotics team has members that are nationally trained and certified by the DEA. They will be available to assist the West Valley Fire Department Haz-Mat Team. Meth Labs are crime scenes and are often booby-trapped.**

The possible stages of a Meth Lab are as follows:

- Known operating lab
- Known boxed lab
- High suspicion of lab
- Low suspicion of lab
- Location recently contained a lab

Known Operating Lab:
If a known lab is present, the on-duty Haz-Mat Captain will be notified and arrangements made for possible detection, monitoring and decon procedures. If time allows, West Valley Police will notify the on-duty Battalion Chief and the Haz-Mat Manager with a request that the Haz-Mat Captain attend the SWAT/Special Operations Team Leader briefing.

Known Boxed Lab:
The procedure for a Known Boxed Lab is the same for an operating lab.

High Suspicion of Lab:
The procedure for a High Suspicion of Lab is the same for an operating lab.

Low Suspicion of Lab:
For a location that has a low suspicion of a lab, the TEMS leader will contact Fire Dispatch and request that the West Valley Fire Department be placed on standby. The Haz-Mat team will be on standby at the station for the 15-20 minutes that it takes to serve the warrant and secure the scene. If the time of day permits, the Haz-Mat Captain will be notified of the situation prior to the warrant service.

If decon measures are required, runoff will be contained and the PH level recorded and documented before disposing.

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Anthrax Tactical Response Plan	HM 018
	Rev.4/09

DESCRIPTION OF AGENT

Anthrax is a highly lethal infection with the bacterium, Bacallus anthracis.

METHOD OF CONTAMINATION

- Cutaneous or skin form, occurs most frequently in hands and forearms, typically by a person working with infected animals or directly exposed to the agent
- Inhalation of the spores, this method would be deliberate. Aerosolized particulate
- Ingestion of insufficiently cooked meat of an infected animal

INCUBATION PERIOD

1-6 days

SIGNS AND SYMPTOMS

Fever, malaise, fatigue, cough, and mind chest discomfort are followed by severe respiratory distress with dyspnea, diaphoresis, strider and cyanosis. Shock and death occur 24-36 hours after the onset of severe symptoms (usually after the respiratory distress onset). In cutaneous anthrax a papule develops, then vesticates, finally developing into a black eschar surrounded by moderate to severe edema. The lesions are usually painless. Without treatment, the disease may progress to septicemia and death with a case fatality rate of 20%. With treatment, fatalities are rare.

TREATMENT

The treatment of anthrax will be completed at a medical facility. Very little can be done with the initial treatment in the field. The field units will need to treat the symptoms as to the normal protocols for the symptom which is present. Medical personnel should where the proper level of protection which is normally used for patient contact. Clinical treatment: High-dose penicillin, ciprofloxacin, or doxycycline should be given. This is not contagious from person to person.

BASIC HAZARDOUS MATERIALS RESPONSE AWARENESS

- Isolate the area and any involved people
- Deny access to anyone except response personnel

- Determine the routes of exposure of the material
- Develop a response plan which includes; level of protection for responders, ability to decontaminate, and medical plans
- Keep everyone calm...

UNIT RESPONSE

- Battalion Chief
- Engine Company
- Haz-Mat Unit
- Police Unit

RESPONSE

Unopened letters or packages with no suspicious markings or indicators:

- This assessment shows that no action by the police or fire department is required. The person who received the letter should be advised that if they are concerned about opening the item they should not do so. It is their right to simply throw the letter away.

Opened letters or packages that contain neither threatening correspondence nor material:

- No response from the fire or police departments is necessary.

Opened letters or packages with material which has spilled out:

- A joint response from both the fire and the police departments will be necessary.
- The room where the package is located should be isolated.
- Complete a hazard and threat assessment to try and determine what is in the package; call or track down where the mail was sent and what it may contain.
- Responders must collect the evidence and send for testing.
- All materials must be screened for chemical and radiological gear for an unknown product. Minimum: splash, gloves, taped respiratory protection with SCBA or filter masks, and eye protection.
- Secure evidence for testing.
- Decontaminate if necessary.
- Notify the State Department of Health
- Notify the FBI

Unopened sealed letters or packages with suspicious markings or indicators:

- Complete a hazard assessment and threat assessment for package
- Radiological monitor
- Explosive device; x-ray package
- Chemical screen
- Operation completed in appropriate level of personnel protective equipment
- Decontaminate if necessary
- Notify the State Department of Health

- Notify the FBI
- Make working Haz-Mat notifications

DECONTAMINATION

People involved in the material, including responders:

- Remove clothing
- Wash with soap and water and place person in white tyvek
- Bag all clothing and material in a bag which is marked with contents, and biohazard

For Objects:

- Do not vacuum the object
- Spray the area with 1:10 solution of household bleach, leave it for five to ten minutes and wipe off

EVIDENCE

It is very important that the evidence be taken in a way to have a high level of results once it is in the lab for analysis:

- DO NOT TAKE ANY EVIDENCE OR PACKAGE BACK TO THE FIRE STATIONS OR POLICE STATIONS. DO NOT LEAVE ANY EVIDENCE AT THE SCENE
- Police department should start the chain of evidence procedures and assure that the evidence is properly handled.
- Do not send unopened letters or packages to the lab. All specimens should be screened for radiological, explosive, and chemical.
- All evidence should be triple bagged and identified with zip lock type bags. Place case number, sample number, and person taking sample on the outside of the bag. Do not use duct tape on the bags.
- Notify the FBI and State Health

NOTIFICATION NUMBERS

FBI..... 579-1400
State Health.....538-6191 or 241-1172

WEST VALLEY CITY FIRE DEPARTMENT
WMD THREAT/HAZARD RISK ASSESSMENT

- ☐ What type of package has been sent, why it is suspicious?
- ☐ Is the package leaking or covered with unknown material?
- ☐ Has the person been threatened? Did the letter or package contain a threat?
- ☐ Has the person been threatened before?
- ☐ Obtain all information available from package;
  - ☐ Return address _____
  - ☐ Postmarking _____
  - ☐ Was the mail expected?
- ☐ Conduct logical checks to determine the validity of the mail.
- ☐ Contact sender, explain what you have, ask for explanation for the substance in the package.
- ☐ Has there been anything happen previously at the residence or business?
- ☐ What does the business do?
- ☐ For additional assistance contact the FBI

NOTES

WEST VALLEY CITY FIRE DEPARTMENT

Standard Operating Guidelines

Exposure Control Reporting of Infectious Disease or Chemical Contamination	HM 021
	Rev. 9/08

SCOPE

To outline the reporting procedure for Fire Department firefighters who experience a significant exposure to a potentially infectious biological substance or to toxic chemical substances.

RESPONSIBILITIES

Any biological or chemical exposure that may adversely affect the health of a firefighter while at work must be reported to the Exposure Control Officer. It is the responsibility of the Company Officer that this notification is made and that all required documentation is completed and distributed appropriately. It is the responsibility of the Exposure Control Officer to advise a potentially exposed firefighter, to account for and secure documentation of the exposure, and to track all future testing and treatment for the exposure as determined by the proper medical authority.

OPERATING PROCEDURE

If a firefighter suspects that he/she has been significantly exposed to an infectious agent or toxic chemical, he/she will report suspected exposure to the Company Officer. The Company Officer and Exposure Control Officer will then follow the given algorithm for infectious disease or toxic chemical exposures (see Appendix A).

The Company Officer will assure that the firefighter is notified of and follows the appropriate steps of the algorithm as indicated. Contact with the Exposure Control Officer will be made to help expedite treatment and follow up for the firefighter. The on-duty Battalion Chief will also be notified.

The West Valley City Fire Department Infectious Exposure Form will be completed, and copies will be sent to the on-duty Battalion Chief and the Exposure Control Officer. A copy will be sent by the Battalion Chief to the Operations Chief who will then notify the Administrative Officer, the Personnel Officer, and the Risk Management Officer.

Exposure Report Forms (ERF) must accompany the patient to Work Med or Pioneer Valley Hospital. The **green** copy of the ERF will be retained by the individual making the exposure report. The **pink** copy must accompany the industrial forms when submitted. The **white** copy goes to the Utah State Lab, and the **canary** copy must be sent to the Bureau of Epidemiology (Department of Health). A copy must also be provided for the Exposure Control Officer.

It will be the individual member's responsibility to follow up with the designated facility for any blood draws or treatment following a significant exposure, based on direction from the treating physician and advice from the Exposure Control Officer.

MEDICAL EXPOSURE SEVERITY RATING FOR INFECTIOUS DISEASES

Evaluating the significance of an infectious disease exposure depends on the communication of the details provided by the exposed firefighter and the Exposure Control Officer's use of the severity rating system. Four categories define exposure levels that firefighters may face when treating patients. In all cases, it is assumed that the exposed employee can immediately clean the exposed area of the body. If unable to do so, the severity of the exposure may be upgraded.

Severity Rating Levels

SIGNIFICANT exposure occurs whenever a patient's blood or body fluids, visibly contaminated with blood, contact an employee through percutaneous inoculation, an open wound, non-intact (chapped, abraded, or weeping) skin or mucous membrane. The single most common example is a needle stick.

MODERATE exposure occurs whenever a patient's body fluids contact an employee's mucus membranes. Mouth-to-mouth resuscitation or a patient sneezing / coughing on a firefighter are two examples. However, a patient with active tuberculosis, not on medication, who is coughing represents a significant risk of exposure to any care giver in the same room.

MINIMAL exposure occurs whenever a patient's blood or body fluids contact an employee's intact skin or a patient's intact skin contacts an employee's mucous membranes. For example, a firefighter arrives on the scene without gloves and has a child covered in blood thrust into his hands; or a combative patient grabs a firefighter's mouth.

PROBABLE-NONE occurs whenever a patient's intact skin contacts an employee's intact skin; this represents a low risk of exposure to infectious disease.

Exceptions to the ratings exist, and the employee should always look to protect themselves from these occurrences, one example is measles. Simply entering a room which an infectious measles patient has vacated within the hour represents a significant risk of infection. When doubt exists, consultation with the ECO or department physician should provide guidance for making an informed decision on the severity of a particular exposure.

MEDICAL EXPOSURE SEVERITY RATING FOR TOXIC CHEMICALS

Describing the nature of a toxic chemical exposure is dependant on the accuracy of the information provided by the exposed firefighter to the Exposure Control Officer. Like the infectious disease exposure rating system, the toxic chemical exposure system also uses four categories.

Severity Rating Levels

SIGNIFICANT exposure occurs when the firefighter becomes symptomatic of the exposure within forty-eight hours of the incident.

MODERATE exposure occurs when the firefighter becomes symptomatic of the exposure within two weeks of the incident.

MINIMAL exposure occurs when the firefighter tests positive for a specific chemical exposure, but does not exhibit any acute or delayed symptoms.

PROBABLE exposure occurs when the firefighter is in the presence of a toxic chemical, but does not test positive for any specific chemical and does not exhibit any acute or delayed symptoms.

DOCUMENTATION OF EXPOSURES / DISTRIBUTION OF EXPOSURE FORMS

As indicated by Appendix A (Algorithm for Infectious Disease or Toxic Chemical Exposures), any potential or actual exposure requires the completion of an industrial injury form. A copy of this form must be left with the medical provider, a copy must be sent to Utah Labor commission, a copy must go to Fire Administration, and a copy must go to the employee.

When an infectious disease exposure takes place, the WVCFD Infectious Disease or Toxic Chemical Form must be completed. A copy must be forwarded to the on-duty battalion chief and a copy must go to the department's Exposure Control Officer. The exposed firefighter should also keep a copy.

When an infectious disease exposure takes place, the Emergency Medical Service Provider Exposure Report Form (Form 350 - State of Utah - Labor Commission) must be completed. This form must be distributed in the following manner: A copy to the Labor Commission, a copy to the Utah State Lab (with a blood sample), a copy to the State Bureau of Epidemiology, and a copy to the employee.

APPENDIX A

WEST VALLEY CITY FIRE DEPARTMENT

Algorithm for Infectious Disease or Toxic Chemical Exposures

Exposure Reported to Company Officer

Exposure Control Officer & On-duty Battalion Chief Notified → Notification made to department's Safety Officer

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Firefighter Reports to Work Care
(Industrial injury forms completed)
Or
Pioneer Valley Hospital
(Industrial injury forms completed)

Forward to the Exposure Control Officer ← Complete WVCFD Infectious Disease & Toxic Chemical Exposure Form → Forward to Battalion Chief

Labor Commission ← Complete Utah Infectious Disease Exposure Report Form → Utah State Lab
(Copy to Exposure Control Officer)

Employee ← ↓ → Bureau of Epidemiology

↓

Exposure Control Officer reviews case with exposed firefighter and advises

Exposure Control Officer files hard copies of exposure documents and completes database form for the exposed firefighter

Exposure Control Officer tracks future testing and treatment to insure follow-up for the exposed firefighter

WEST VALLEY CITY FIRE DEPARTMENT

Infectious Disease or Toxic Chemical Exposure Form

To be filled out and returned to the Exposure Control Officer and Battalion Chief
(Not to be used in place of the Utah Exposure Report Form)

Exposed Employee: _____ Rank: _____

SS#: _____ Home Phone: _____

Incident #: _____ Shift: _____ District: _____

Name of Patient: _____ Sex: _____ Age: _____

Address: _____

Suspected or Confirmed Disease or Chemical: _____

Transported to: _____ Transported by: _____

Date of Exposure: _____ Time of Exposure: _____

Type of Incident (auto accident, trauma): _____

If a potential infectious disease, what were you exposed to:

Blood_____ Tears _____ Feces _____ Urine _____ Saliva _____

Sweat _____ Sputum _____ Vomitus _____ Other _____

If a potential toxic chemical, what were you exposed to:

Vapor_____ Liquid_____ Solid_____ Suspected or confirmed chemical_____

What part(s) of your body became exposed; be specific: _____

_____

_____

Did you have any open cuts, sores, rashes that became exposed; be specific: _____

_____

_____

How did exposure occur; be specific: _____

_____

_____

Did you seek medical attention: Yes _____ No _____

Where: _____ Date: _____

Contact Exposure Control Officer: Date: _____ Time: _____

Supervisor's Signature: _____ Date: _____

Employee's Signature: _____ Date: _____